

September 2018

# Snoqualmie Wildlife Area Management Plan



Washington  
Department of  
**FISH and  
WILDLIFE**

# Acknowledgements

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**Cover Photos:** Cherry Valley by Alan Bauer, black-tailed deer by Anthony Sirgedas and American bittern by Brad Manchias



## Snoqualmie Wildlife Area

Handwritten signature of Kelly Susewind in blue ink.

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Kelly Susewind, Director, Washington Department of Fish and Wildlife

# Snoqualmie Wildlife Area Management Plan



September 2018

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## List of Acronyms & Abbreviations

<b>ADA</b>	Americans with Disabilities Act
<b>ALEA</b>	Aquatic Lands Enhancement Account
<b>DNR</b>	Washington Department of Natural Resources
<b>DPS</b>	Distinct Population Segment
<b>EIA</b>	Ecological Integrity Assessment
<b>EIM</b>	Ecological Integrity Monitoring
<b>ESA</b>	Endangered Species Act
<b>ESU</b>	Evolutionarily Significant Unit
<b>IPM</b>	Integrated Pest Management
<b>LWCF</b>	Land and Water Conservation Fund
<b>NAWCA</b>	North American Wetlands Conservation Act
<b>PHS</b>	Priority Habitats and Species
<b>RCW</b>	Revised Code of Washington
<b>RCO</b>	Washington State Recreation and Conservation Office
<b>SEPA</b>	State Environmental Policy Act
<b>SGCN</b>	Species of Greatest Conservation Need
<b>SRBF</b>	Salmon Recovery Funding Board
<b>SWAP</b>	State Wildlife Action Plan
<b>USFWS</b>	United States Fish and Wildlife Service
<b>WAC</b>	Washington Administrative Code
<b>WAAC</b>	Wildlife Area Advisory Committee
<b>WDFW</b>	Washington State Department of Fish and Wildlife
<b>WLA</b>	Wildlife Area
<b>WHCWG</b>	Washington Wildlife Habitat Connectivity Working Group
<b>WWRP</b>	Washington Wildlife Recreation Program

# Part I: Wildlife Area Management Planning Overview



# Management Planning Overview

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## Introduction and Agency Mission

Under state law, the Washington State Department of Fish and Wildlife (WDFW) is charged with “preserving, protecting, and perpetuating” the state’s fish and wildlife species, while also providing sustainable recreational opportunities that are compatible with fish and wildlife stewardship. Today, WDFW owns or manages nearly one million acres in 33 wildlife areas across Washington, whose diversity includes nearly all species and habitats present in the state. With the loss of natural habitat posing the single greatest threat to native fish and wildlife, these areas play a critical conservation role. The wildlife area management plan addresses all aspects of resource management, and aligns with statewide conservation goals.

An interdisciplinary team of WDFW staff, including fish and wildlife biologists, enforcement, real estate, and management, developed the Snoqualmie Wildlife Area Management Plan, along with significant public involvement. This included input from the local stakeholder-based Snoqualmie Wildlife Area Advisory Committee (WAAC), input from other public agencies, volunteers, and input from other interested citizens gathered at two public meetings.

## Wildlife Area Management Planning Framework

Management of wildlife areas is guided by WDFW’s mission and strategic plan, as well as by state and federal laws. Each new plan is guided by the Wildlife Area Management Planning Framework (Framework), which summarizes the agency’s mission, laws, policies and approaches to management of fish and wildlife, as well as public use and recreation. The framework summarizes priorities and guidance developed in each of the agency’s programs – Fish, Wildlife, Habitat, and Enforcement. Readers are encouraged to review the framework in advance, or as a companion document to this wildlife area plan ([http://wdfw.wa.gov/lands/wildlife\\_areas/management\\_plans/](http://wdfw.wa.gov/lands/wildlife_areas/management_plans/)). The framework provides context for the organization and content of wildlife area plans across the state. It is a living document, and is updated periodically to reflect new agency initiatives, guidance or directives.

## Purpose of the Plan

The purpose of this plan is to guide management activities occurring on the Snoqualmie Wildlife Area for the next 10 years. Management goals, objectives, and performance measures are defined in the plan and provide a clear roadmap of projects and management actions to support statewide conservation and recreation goals. The plans are intended to be a resource for both public and agency audiences and are used to assess and monitor progress towards statewide goals, document site conditions and management intentions, and are important planning documents for seeking grant funding. Actions in the plan are dependent on available budget. Budget reductions made during the life of this plan may delay implementation of some of the actions.

## Statewide Vision

The statewide vision sets the agency expectations for the future state of all Washington Department of Fish and Wildlife’s wildlife areas.

Wildlife areas inspire and engage the citizens of Washington to care for our rich diversity of fish, wildlife and habitat. Management of these lands:

- Contributes to fish and wildlife conservation;
- Provides opportunities for fishing, hunting, wildlife viewing, and other outdoor recreation; and
- Supports public values of open space health and well-being, economic vitality and community character.

## Statewide Planning Goals

The Table 1 shows the seven statewide goals that all wildlife areas are expected to achieve. Specific goals, objectives, and performance measures for the Snoqualmie Wildlife Area are found in Table 5, page 52.

**Table 1. Statewide Planning Goals**

- 
- Goal 1** **Restore and protect the integrity of priority ecological systems and sites.** This goal originates from the WDFW Strategic Plan, Goal #1: “Conserve and protect native fish and wildlife”. Ecological integrity monitoring on priority sites will be developed as part of implementation for the wildlife area plan discussed on page 52.
- 
- Goal 2** **Sustain individual species through habitat and population management actions, where consistent with site purpose and funding.** This goal relates to WDFW Strategic Plan, Goal #1. Each individual wildlife area plan will provide a summary of species associated with the wildlife area and will focus on target species for habitat management actions.
- 
- Goal 3** **Provide fishing, hunting, and wildlife-related recreational opportunities where consistent with Goals 1 and 2.** This goal is consistent with the WDFW Strategic Plan, Goal #2. Each plan will provide a summary of recreation activities associated with the wildlife area, balancing recreational activities with species and habitat protection.
- 
- Goal 4** **Engage stakeholders in consistent, timely and transparent communication regarding wildlife area management activities.** This goal relates to Strategic Plan Goal #3, “Promote a healthy economy, protect community character, maintain an overall high quality of life, and deliver high-quality customer service”. As described under the public outreach section of this document, public input and involvement is a key component in the development of the management plan through the advisory committee efforts and public meetings. After the plan is adopted, the management plan updates will be reviewed by the wildlife area advisory committee on a biannual basis.
- 
- Goal 5** **Maintain productive and positive working relationships with local community neighbors, lessee partners and permittees.** As part of day-to-day business, wildlife area staff strives to maintain positive working relationships with grazing and agricultural lease holders, where applicable, and the local community.
- 
- Goal 6** **Hire, train, equip, and license, as necessary, wildlife area staff to meet the operation and management needs of wildlife areas.** This goal is consistent with Goal 4 of the Strategic Plan, “Build an effective and efficient organization by supporting the workforce, improving business processes, and investing in technology”. Specific activities on wildlife areas include training and hiring qualified staff.
- 
- Goal 7** **Maintain safe, highly functional, and cost-effective administration and operational facilities and equipment.** This goal is consistent with WDFW Strategic Plan Goal 4. Maintenance of facilities and equipment is a key activity on wildlife areas. Annual reporting is required by WDFW and agencies that provide operations and maintenance funding (e.g. U.S. Fish and Wildlife Service, Pittman Robertson Act).
-

## Public Outreach and Stakeholder Involvement Process

The agency is committed to a transparent and inclusive public outreach process for all wildlife area management plans. Under the umbrella of the statewide goals, a customized outreach strategy was developed for the Snoqualmie Wildlife Area, tailored to local and regional stakeholders, as well as local and out of the area visitors and user groups. For this plan, the public process included three elements: 1) public and advisory committee

meetings; 2) development and distribution of fact sheets, meeting announcements, and news releases; and 3) solicitation of public comments through phone, email, and the WDFW website.

Because of the volume of comments on the draft plan, the compilation of the SEPA public comments are published as a companion document to this plan. It will be found along with the plan on the WDFW website at [https://wdfw.wa.gov/lands/wildlife\\_areas/management\\_plans/](https://wdfw.wa.gov/lands/wildlife_areas/management_plans/).



**Public Scoping Meeting**  
Photo by WDFW Staff

# Welcome to the Snoqualmie Wildlife Area

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## Introduction to the Wildlife Area

The 2,797-acre Snoqualmie Wildlife Area is located in Snohomish and King Counties in western Washington, north and east of Seattle and west of the Cascade Mountains. (See Map 1). It consists of six units, four of which are located in Snohomish County and two in King County. Lands adjacent to the units are mainly rural residential, agricultural, and municipal.

Nestled in a rural agricultural region of the Snohomish River watershed, the wildlife area units are protected from development and provide refuge for wildlife and a place for people to enjoy wildlife-related recreational activities. In an area faced with a growing population and development pressure, the wildlife area provides a unique opportunity for rural and urban dwellers to experience and learn about wildlife. The area plays an important role in broader statewide goals including salmon recovery, and has supported over 36 fish passage or restoration projects over the last 10 years.

## Wildlife Area Vision

The overall vision of the Snoqualmie Wildlife Area is to:

*Maintain and create quality habitat for fish and wildlife by conserving, enhancing, and restoring habitat; provide food, water, cover, and security for all life stages of fish and wildlife; and provide compatible wildlife-related recreational opportunities, consistent with the Department's mission.*

The descriptions of the wildlife area units contains unit-specific visions.



**Cedar waxwing in ash tree**  
Photo by Alan Bauer

## Success Stories

### Citizens Provide the Science to Monitor Species

Citizen science plays an important role in helping the agency collect baseline information and monitor species and habitat. At the Snoqualmie Wildlife Area, trained volunteers (citizen scientists) have been active on several projects including collecting baseline information on bat activity in the area and identifying birds within wetland habitat.

#### *Bats on the Wildlife Area!*

In 2011, citizen science volunteers from the local conservation group Bats Northwest (<http://www.batsnorthwest.org/index.html>) began a pilot project to assess the presence of western Washington bats species at the Stillwater Unit of the Snoqualmie Wildlife Area. Volunteers walked pre-established routes carrying electronic listening devices designed to record the high frequency sounds that bats emit to help them orient in the environment and locate insect prey. Computer software analyzed the sound that identified the species. This enabled biologists to document species presence at a given location.

Interested citizens helped expand the project to include other parts of the wildlife area in subsequent years. Nine bat species were documented as occurring on the Snoqualmie Wildlife Area: big brown bat, Townsend's big-eared bat, hoary bat, silver-haired bat, little brown myotis bat, Yuma myotis bat, western long-eared myotis bat, long-legged myotis bat, and California myotis bat.

These data on bats have proved valuable to scientists, since in 2016, a disease that is deadly to bats was documented for the first time in Washington in a little brown myotis bat (*Myotis lucifugus*). White-nose syndrome is a disease caused by a fungus that may be spread by bat-to-bat contact. Washington's first case was confirmed near North Bend, WA (<https://wdfw.wa.gov/conservation/health/wns/>). WDFW is an active partner in white-nose syndrome response, which is coordinated at the national level. Active surveillance for the syndrome is ongoing in King County.

Since the Bats Northwest data set was the most robust data that had been collected in King County, the citizen scientists resumed their surveys and collected data on bat presence at the Stillwater Unit during the spring of 2016. This information may be useful in helping to understand the impacts of white-nose syndrome for Washington's bat species.



**Townsend's big-eared bat**  
Photo by Bob Davies

### *Secretive Marsh Bird Surveys*

In 2016, citizen scientists from the Puget Sound Bird Observatory (<http://pugetsoundbirds.org/>) conducted a pilot survey of marsh birds. Due to their secretive nature, many of the target birds for this study, which include American bittern, sora, Virginia rail, and green heron, are often under-detected using traditional survey techniques. This effort also studied the presence and abundance of birds that depend on wetlands and their surrounding habitats. Citizen science volunteers conducted surveys of the Stillwater and Spencer Island units in 2016 and 2017, and plan to expand to the Cherry Valley and Crescent Lake units. Birds found at Spencer Island include Virginia rail and marsh wrens in 2016 and an American bittern in 2017. Many willow flycatchers were documented at Stillwater, along with sightings of Virginia rails. These surveys provide information to the wildlife biologists regarding species use of wetland systems. A list of birds documented at Stillwater Unit is in Appendix A, Species and Habitat Information.

The examples of both the bat and marsh bird surveys demonstrate how citizen science volunteer efforts can assist in the management of wildlife in circumstances when agency funding is limited.

### **A Watershed-based Salmon Recovery Effort**

The Snoqualmie Wildlife Area, located in the Snoqualmie Basin, is a key component of a primary salmon and steelhead migration corridor in Puget Sound. The Spencer Island and Ebey Island units are located in the Snohomish Estuary, which provides important rearing habitat for juvenile salmonids, especially Chinook salmon. In 1999, Puget Sound Chinook salmon and bull trout were listed under the Endangered Species Act (ESA) as threatened. The 2006 Snoqualmie Wildlife Area Management Plan detailed a strong interest by WDFW in responding to ESA-listed Chinook salmon recovery efforts. In 2007, Puget Sound steelhead were listed as threatened.

From 2006 to 2016, over two dozen restoration-focused projects on all the wildlife area units were completed. This



**American bittern**  
Photo by Brad Manchias



**Spencer Island**  
Photo by Lindsey Desmul

includes riparian restoration, removal of barriers to fish passage, creation of off-channel habitat, and feasibility studies for continued restoration efforts. The primary focus has been on the Cherry Valley and Stillwater units. Both units are located in critical salmon priority habitats described in the Snohomish River Basin Salmon Conservation Plan (Snohomish Basin Salmon Recovery Forum 2005).

Habitat restoration projects conducted to benefit Chinook salmon recovery on the units will also benefit steelhead. Aquatic habitat restoration in all wildlife area units are expected to benefit bull trout.

WDFW staff collaborated with many organizations on these projects, including the Salmon Recovery Funding Board, Wild Fish Conservancy, Ducks Unlimited, Snoqualmie Watershed Forum, Snohomish Basin Recovery Forum, Sound Salmon Solutions, King Conservation District, King County Flood Control District, and Drainage District 1 (Ebey Island) and Drainage District 7 (Cherry Valley). Thousands of community volunteers and businesses provided restoration planting assistance, reflecting a truly watershed-based effort to improve habitat for ESA listed species. This collaboration continues, and will help inform the next phase of restoration priorities for the wildlife area.

### **Permanent WLA Staff Available to Serve the Public**

WDFW's Region 4 Office manages both the Snoqualmie Wildlife Area and the Skagit Wildlife Area. In the early 2000's, the two wildlife areas were combined to consolidate management operations. The two wildlife areas were too much for one person to manage, and this led to a notable decline in stakeholder involvement, wildlife, habitat, and recreational opportunities. Public approval was low, and it was expressed through the Citizen's Advisory Group (now called Wildlife Area Advisory Committee) and other users.

In 2013, WDFW reinstated the local Snoqualmie Wildlife Area Manager position, initiating a "turn-around" for the wildlife area, and resurgence in cooperative management efforts. The advisory committee was re-engaged, which increased opportunities for public input. Dedicated staff set the foundation for more effective management of the wildlife area and service to the public. This includes improvements to habitat that benefit fish and wildlife, such as using agriculture to control weeds and provide wildlife food and cover, enhanced recreational opportunities, new signage, and consistent enforcement and management of recreating public during hunting and other seasons.

The Wildlife Area Manager position received funding for the basic management activities, but no additional staff was provided that could have helped with managing the needs of the public, working with volunteers, and identifying and implementing projects and improvements. With years of deferred maintenance, the task of rebuilding the Snoqualmie Wildlife Area was daunting.

Community volunteers, watershed partners, and local businesses responded to the need, and jumped in to help get the wildlife area functioning again. Many volunteer hours went into infrastructure improvements such as maintenance of roads, trails, and boardwalks, and construction of signboards, gates, and fences, as well as repairs to the Cherry Valley barn and pheasant net pen.

Outside support and assistance helped get noxious weed control on track, the agriculture program revived, and drainage issues addressed. All of these efforts helped to provide outdoor recreation opportunities for the public in an urban setting, including improved waterfowl and pheasant hunting and bird dog training. Public safety, always a big concern at wildlife areas, improved through collaboration with WDFW Enforcement, County Sheriffs, State Patrol, the City of Everett, and Snohomish County Parks. This team effort pooled strained resources, provided increased public safety, and established a shared interest in fighting illegal activities that affect public safety.



**Volunteers at Crescent Lake**  
Photo by WDFW Staff



**Volunteers for clean up at Ebey Island**  
Photo by WDFW Staff





**Snoqualmie Wildlife Area - Cherry Valley Unit at sunrise**  
Photo by Alan Bauer

# Wildlife Area Description

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## Summary of the Wildlife Area and Vicinity

This section describes the wildlife area in general and the six units in particular: Corson Natural Area, Spencer Island, Ebey Island, Crescent Lake, Cherry Valley, and Stillwater. Five of the six units of the Snoqualmie Wildlife Area (all but Corson) are located in the floodplain of either the Snoqualmie or Snohomish rivers. All of the units are at low elevation, from sea level to less than 400 feet.

The Corson Unit is the furthest north of the units, located north of the City of Lake Stevens. The Spencer Island

Unit is east of the city of Everett, and the Ebey Island Unit is located between Everett and the City of Lake Stevens. The three southern units are located off of SR 203. The Crescent Lake Unit is three miles south of the City of Monroe, the Cherry Valley Unit is one-mile north of the City of Duvall, and, the Stillwater Unit is the southernmost unit.



**Snoqualmie Wildlife Area - Crescent Lake Unit at sunrise**  
Photo by Alan Bauer

## Regional Character

The Snoqualmie Wildlife Area is integrally connected to and reflective of the economic, historic, cultural, and natural resources of the area and the people living among it. Though the area has undergone significant change because of suburban development, it retains much of its rural character. Two-lane roads, small towns and farms characterize the area. At the same time, development pressure from increased population is evident.

## Community Values

The wildlife area supports the following community values:

**Recreation:** Snoqualmie Wildlife Area units are popular with hunters, fishers, wildlife viewers, bird dog trainers, and other user groups due to their proximity to highly urbanized areas and the variety of wildlife and habitat the wildlife area supports. In addition, WDFW also actively manages the units to control weeds and provide forage and cover for wildlife, which leads to improved hunting and wildlife viewing opportunities.

Outside of the wildlife area, there are efforts underway in Snohomish County to expand long-distance and connected water recreation opportunities, such as the Skykomish - Snohomish Rivers Recreation Coalition, working on a recreation route along the Skykomish, Snoqualmie, and Snohomish rivers (<https://snohomishcountywa.gov/4029/Skykomish-Snohomish-Rivers-Recreation-Co>).

**Salmon Recovery:** Numerous restoration activities on the Snoqualmie Wildlife Area have contributed to salmonid recovery, following the federal listings of Chinook salmon, steelhead, and bull trout in the Snoqualmie and Snohomish watersheds.

**Agriculture:** In 2018, Snoqualmie Wildlife Area manages 442 acres, through four leases with local agricultural operators, providing economic benefits to local farmers and benefits to habitats and species. Farmed products support “buy local” initiatives, King County Agriculture Program goals and efforts of the Snoqualmie Fish, Farm, and Flood Advisory Committee. The committee was charged to advance and balance three important county goals at a watershed scale: restoring habitat to aid salmon recovery, supporting farmers and preserving farmland, and reducing flood risk for farmers and other Snoqualmie Valley residents. (<http://www.kingcounty.gov/services/environment/watersheds/snoqualmie-skykomish/fish-farms-flooding.aspx>). WDFW supports this effort and the benefits that agriculture provides.

**Water Resources:** Reconnecting the river with its floodplain is integral to state and county water quality, flood management, and aquatic resource efforts including recreational water use.

## Ownership and Use of Adjacent Lands

Adjacent lands are mainly rural residential, agricultural, municipal, and parks. Dike and Drainage District #1 owns land adjacent to the Ebey Island Unit, and the Snohomish County Parks and Recreation Department owns the southern two-thirds of the Spencer Island Unit, jointly managing the entire island with WDFW. The Tulalip Tribe owns about 400 acres adjacent to the Crescent Lake Unit.

## Snoqualmie Wildlife Area Unit Descriptions

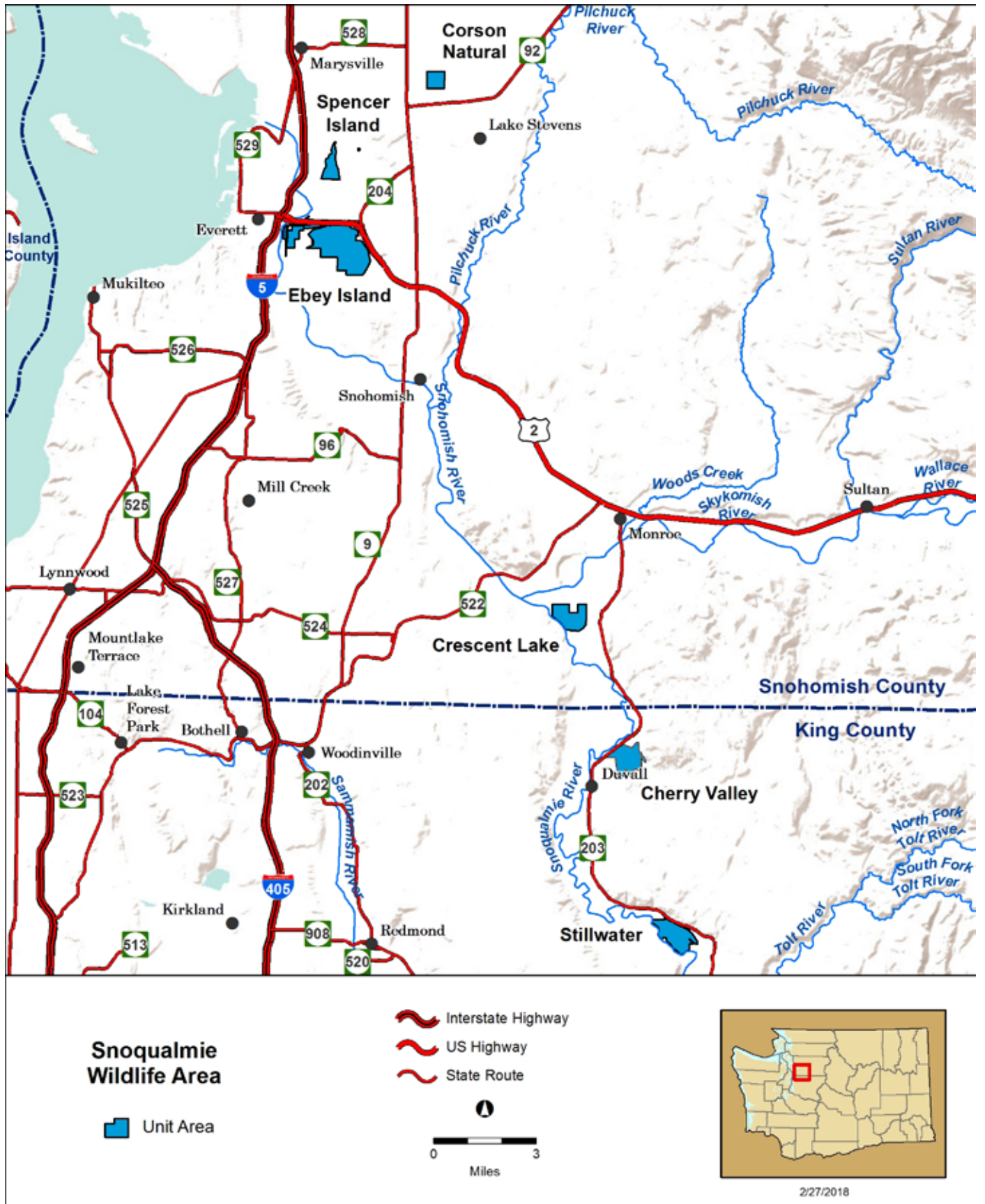
The summaries provide an overview of property location and size, resource management, recreation and public use, and landownership and management. Proposed actions that are unique for each unit are detailed at the end of the unit description. Table 5. Goals, Objectives, and

Performance Measures on page 52 lists all of proposed actions for the planning period.

For each unit, goals specific to that unit are listed at the end of the section. If a goal applies to four or more units, it is not called out separately.

GENERAL WILDLIFE AREA INFORMATION	
<b>Size</b>	- 2,797 acres
<b>Acquisition Date</b>	- 1964 - 2017
<b>Acquisition Funding</b>	- National Park Service: <i>Land and Water Conservation Fund (LWCF)</i> US Fish and Wildlife Service: <i>National Coastal Wetlands Grants</i> Recreation and Conservation Office (RCO): <i>Aquatic Lands Enhancement Account (ALEA)</i> ; <i>WA Wildlife and Recreation Program (WWRP)</i> , <i>Salmon Recovery</i> , <i>State Bond Account</i> Private Donations WA Dept. of Fish and Wildlife: <i>Wildlife Fund (WLF)</i> , <i>State Migratory Waterfowl Fund (Duck Stamp)</i> Washington State: <i>Capital Budget</i>
<b>Purpose of Funding</b>	Hunting, wildlife conservation, and wildlife-related recreation
<b>Recreational Opportunities</b>	- Hunting, fishing (limited), wildlife viewing, bird dog training, wildlife-related recreation
<b>Counties</b>	- Snohomish and King

Map 1. Snoqualmie Wildlife Area Vicinity



## Corson Natural Area Unit

*The vision for the Corson Unit is to improve public access, and manage the land consistent with the deed requirements to preserve and protect the land for wildlife enhancement and public enjoyment.*

GENERAL UNIT INFORMATION	
<b>Size</b>	- 167 Acres
<b>Acquisition Date</b>	- 1976
<b>Acquisition Funding</b>	- Private Donation
<b>Purpose of Funding</b>	Establish an area to enhance wildlife use and provide for public enjoyment
<b>Elevation</b>	- 320+ feet
<b>Recreational Opportunities</b>	- Recreational opportunities for wildlife viewing, education, and volunteering are limited to pre-arranged groups
<b>Access</b>	- Public access is through private land, by permission only.

The **Corson Natural Area Unit** is 167 acres of forest riverine and wetland complexes north of Lake Stevens in a rural residential area. A private owner donated the land to WDFW to establish a wildlife natural area by managing vegetation to enhance wildlife use, and for the public to enjoy. Hunting is not allowed on the unit in keeping with the donor’s vision of a wildlife park. Most of the forest in this wildlife area consists of a mix of native coniferous and deciduous trees and shrubs. The land was logged and cleared in the 1960s, and now has about seven acres of planted fields.

Catherine Creek enters the wildlife area from the north and flows along the east side of the property. Several unnamed tributaries drain wetlands into Catherine Creek, which has created habitat for waterfowl, birds of prey, songbirds and upland birds, coho salmon, amphibians, deer, black bear, cougar, bobcat, weasel, mink, beaver, muskrat and river otter.

In 2016, one control structure and five culverts were replaced, removing barriers for fish passage in Catherine Creek. The placement of root wads at each crossing provides stream habitat as well as encourages beaver activity, which naturally maintains the wetland water elevation. Also at this time, the service road was upgraded to DNR standards, and a pedestrian bridge installed, linking a network of hiking trails.

WDFW has facilitated volunteer stewardship opportunities for maintenance and enhancement of the unit through local landowners, clubs, and non-profit organizations. Volunteers have planted trees to restore the forest, cleared alder trees and brush, and planted coniferous trees. A variety of grain and forage foods provided by WDFW are planted by volunteers for waterfowl and wildlife consumption.

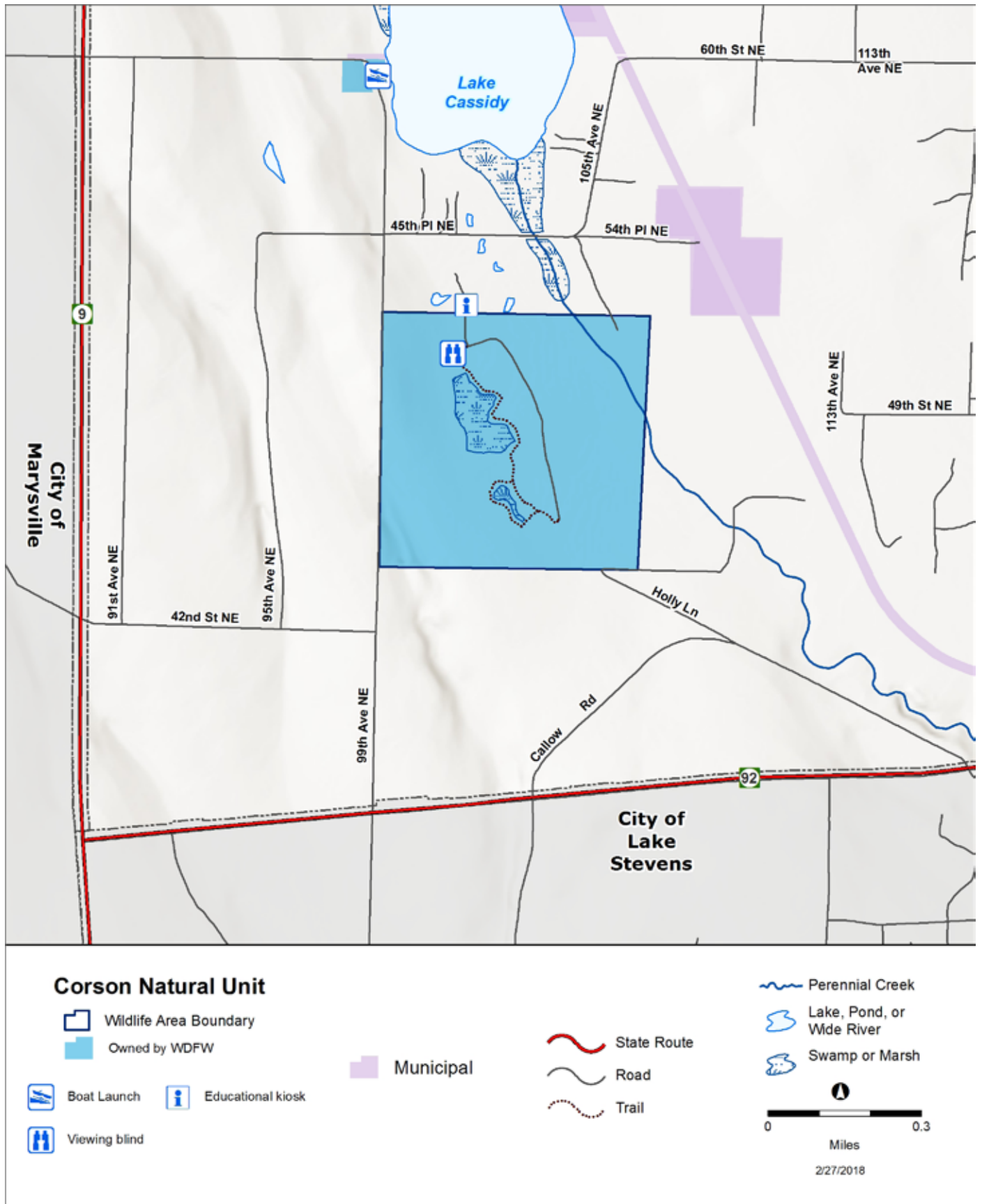
There is a trail network throughout the unit and a wildlife-viewing platform. Because access is through private property, prior arrangement for access needs to be obtained through the Snoqualmie Wildlife Area Manager. This unit provides wildlife and avian observation opportunities for groups such as the Audubon Society, Boy and Girl Scout troops, and local school educational field trips.

WDFW is exploring options to improve public access to the unit.

### **Primary management objectives specific to the Corson Unit**

- Improve access at the Corson Unit (3.J).

Map 2. Corson Natural Area Unit



## Spencer Island Unit

*The vision for the Spencer Island Unit is to provide estuary marsh habitat for fish and wildlife species while, in collaboration with partners, providing wildlife viewing and waterfowl hunting opportunities for the public.*



**Spencer Island**

Photo by Lindsey Desmul

### GENERAL UNIT INFORMATION

<b>Size</b>	- 174 acres
<b>Acquisition Date</b>	- 1989
<b>Acquisition Funding</b>	- WA Recreation and Conservation Office - ALEA; WDFW- Duck Stamp
<b>Purpose of Funding</b>	Waterfowl habitat and hunting, wildlife viewing
<b>Elevation</b>	- 0 - 30 ft.
<b>Recreational Opportunities</b>	- Wildlife viewing, waterfowl hunting, walking
<b>Access</b>	- South of Marysville on State Route 529, and via the Marysville City boat launch



The **Spencer Island Unit** is located in the Snohomish River estuary east of the City of Everett. The island is a flat, grassy wetland complex ringed with a mix of native coniferous and deciduous trees and shrubs. Under a 1989 joint acquisition and co-management agreement, WDFW owns 174 acres on the north end and Snohomish County Parks and Recreation Department owns 240 acres on the south end of the island.

In the 1970s, the site was diked and developed for grazing and agriculture, resulting in the loss of tidally influenced wetlands and stream channels. Up until about 1978, the earthen dike encircling the island was built up with thousands of yards of wood chips. Portions of the levee system have failed over time, rendering the site not suitable for agriculture since about 2000. Remnant levees and drain systems still occur on the island. Over time, the goal is to allow tidal exchange.

In 1994, Snohomish County removed sections of a levee and built a cross-dike on the south portion of the property. In 2004, a fire on the WDFW unit caused a breach in the dike. This breach allowed tidal flow from Steamboat Slough into the interior of the island. Later, a second natural breach occurred, allowing tidal flushing and creating access to salmon rearing habitat. In 2005, the Snohomish County Parks Department replaced a culvert on the cross-dike with a footbridge that allows north to south tidal exchange. With the new breaches on the north half of the island, fundamental changes to the tidal exchange have taken place. Invasive species such as reed canary grass that dominated the inner portion of the island are gone.

In collaboration with salmon recovery groups, WDFW is working to continue restoration in the Snohomish River estuary. A partnership between the U.S. Army Corps of Engineers, Snohomish County, and other stakeholders

is exploring the potential of increasing the connection of the site to tidal processes to improve habitat. For more information, please go to [https://wdfw.wa.gov/lands/wildlife\\_areas/snoqualmie/Spencer%20Island/](https://wdfw.wa.gov/lands/wildlife_areas/snoqualmie/Spencer%20Island/).

Migratory Bird Stamp funds have been used for special projects, such as waterfowl habitat enhancements on Spencer Island. Ducks Unlimited has used Salmon Recovery Funding Board funds and North American Wetland Conservation Act funds on habitat restoration projects.

The unit provides habitat for many waterfowl species, including merganser, green-winged teal, bufflehead, mallards, pintail, wigeon, wood duck, gadwall, swans, and Canada geese.

Hunting is allowed only on the north, WDFW-owned portion of the island (see Map 3). An elevated 1.5-mile trail provides waterfowl hunting and wildlife viewing opportunities. Long-term efforts of community volunteers have helped control noxious weeds and restore native vegetation on the trail.

Snohomish County has a no-dogs policy on their portion of the island. On the WDFW portion, leashed dogs are allowed per state rules (WAC 220-500-170). The presence of off-leash dogs on WDFW property likely affects the waterfowl, shorebirds, and other wildlife, and is being monitored to determine if action may be necessary to achieve wildlife related management objectives on the unit.

Access to the unit is through the City of Everett's water treatment plant on 4th Avenue, with limited parking. Vandalism has been an issue here, but there is an enforcement presence. Another option is to park at Langus Riverfront Park and walk 1½ miles to the wildlife area.

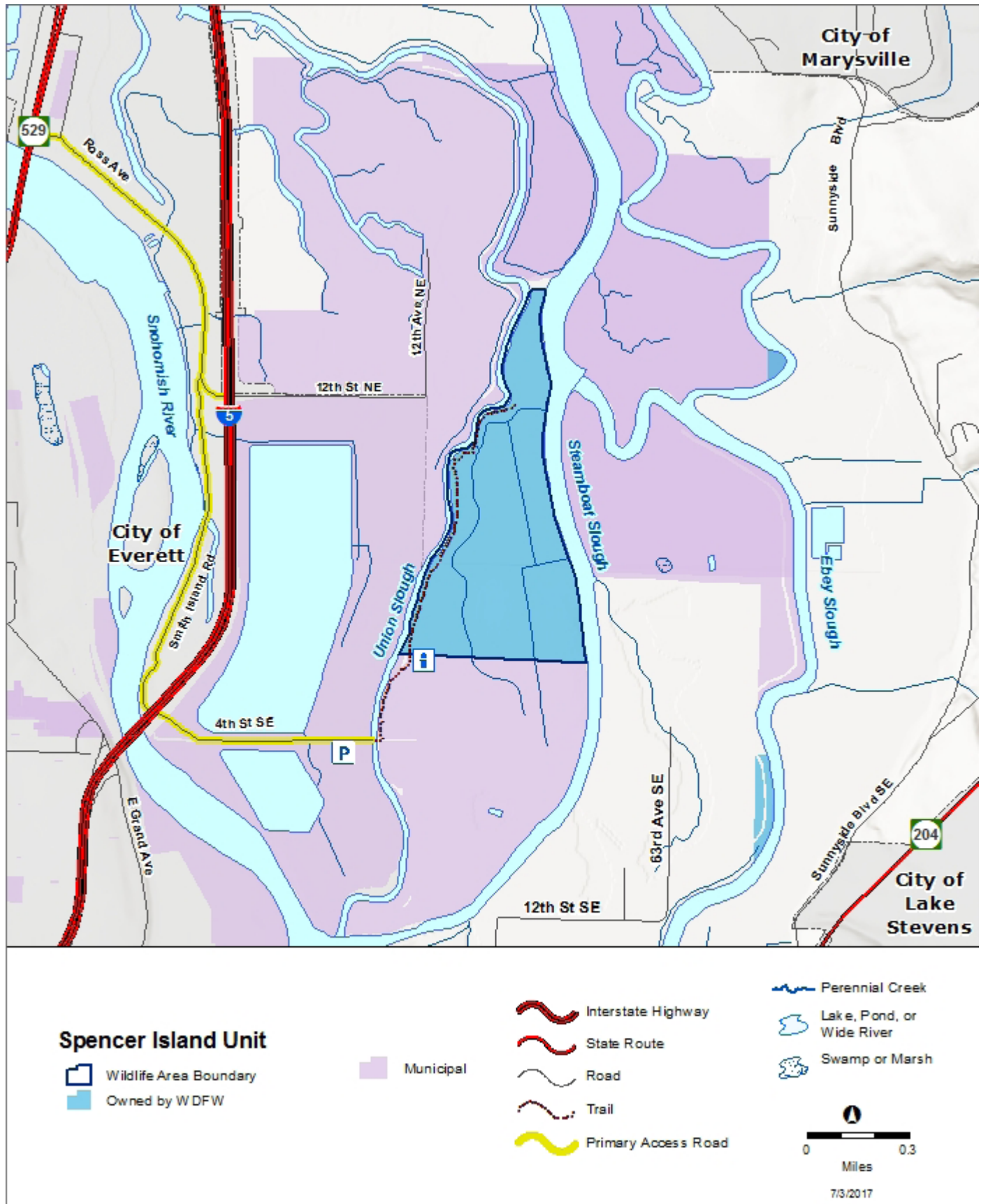
### Primary management objectives specific to the Spencer Island Unit

- Conduct informal surveys for presence of aquatic noxious and invasive species of flora and fauna by 2023 (1.E).
- Improve infrastructure and fish passage to enhance Chinook salmon, steelhead, and bull trout (2.A).
- Improve rearing habitat for juvenile Chinook salmon and other salmon species by 2024 (2.B).
- Continue to work with volunteers and Snohomish County Parks to maintain trails (3.N).
- Continue to develop amenities to improve user experience such as viewing platforms, benches, and waterfowl hunting enhancements by 2020 (3.O).



**Spencer Island Bridge**  
Photo by Alan Bauer

Map 3. Spencer Island Unit



## Ebey Island Unit

*The vision for the Ebey Island Unit is to improve the opportunities for multiple users, develop freshwater wetland enhancements, and, with partners, develop a Master Plan that will include habitat restoration and recreation elements.*



**Ebey Island**  
Photo by WDFW Staff

### GENERAL UNIT INFORMATION

<b>Size</b>	- 1,249 acres
<b>Acquisition Date</b>	- 1964, 2008, 2017
<b>Acquisition Funding</b>	- U.S. Fish and Wildlife Service - Coastal Wetlands Grant; WDFW – State Wildlife Fund, Duck stamp; WA State Legislature – Capital Budget
<b>Purpose of Funding</b>	- Create and enhance wetlands, provide waterfowl hunting, and farming; the long term goal is for the complete restoration of estuarine function
<b>Elevation</b>	- 0 - 30 feet
<b>Recreational Opportunities</b>	- Wildlife viewing, pheasant and waterfowl hunting
<b>Access</b>	From Highway west of Everett

The **Ebey Island Unit** is located south of the Highway 2 trestle between the Snohomish River and Ebey Slough. The 1,249-acre unit consists of approximately 420 acres of forested wetland purchased in 1964 with the WDFW State Wildlife Fund, and 820 acres of grassland, purchased in 2008 with state capital budget and USFWS funds for waterfowl and pheasant hunting, wetland and wildlife protection, walking, estuary restoration, outdoor education, and wildlife-related recreation.

The forested portion of the unit was logged in the 1890s and has reforested naturally into one of the few remaining conifer-dominated wetlands in the Snohomish River estuary. The unit contains a mix of native coniferous and deciduous trees – including Sitka spruce, shrubs, wetland vegetation, and a mix of agricultural lands and fallow grasslands. Deadwater Slough, which spans the unit’s length, divides the unit. A network of ponds, drainage ditches, and sinkholes are present throughout the unit. A perimeter dike provides protection to Ebey Island and provides hunting and walking opportunities. Much of the unit is closed for waterfowl nesting and rearing habitat during the non-hunting season.

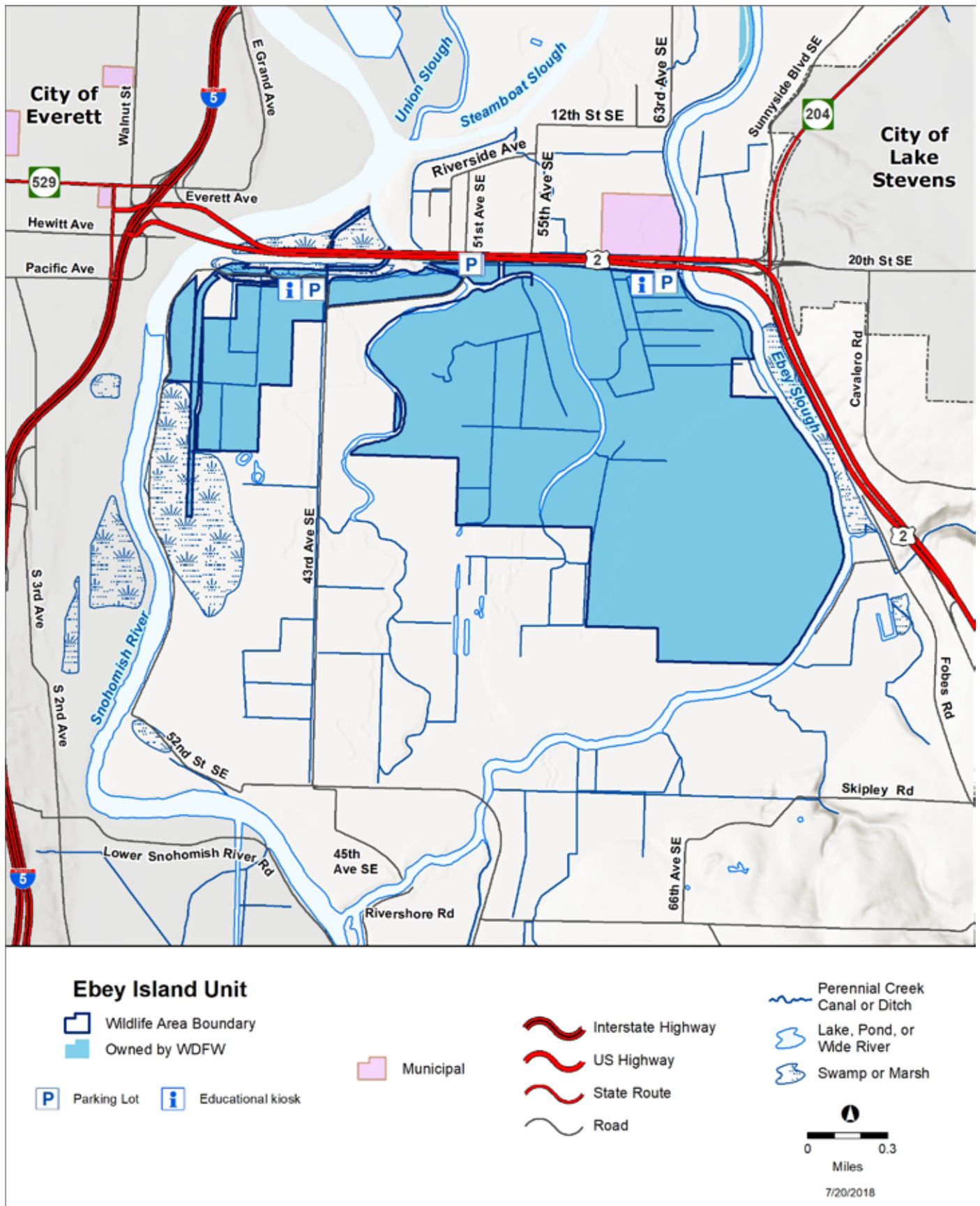
Interim management practices are to use agriculture to help reduce invasive weeds - the first step toward restoration. Under agreement with the funding source, continued traditional and organic agricultural expansion are strategies to improve wetlands, waterfowl hunting, stakeholder relationships, and wildlife-related recreational opportunities for the public, as well as public educational opportunities.

The main recreational activities on Ebey Island are pheasant and waterfowl hunting, and wildlife viewing. Public access to the east and middle portions of the unit and parking have improved with the acquisition of previously leased property in 2017.

### **Primary management objectives specific to the Ebey Island Unit**

- Conduct informal surveys for presence of aquatic noxious and invasive species of flora and fauna by 2023 (1.E).
- Develop a Master Land Management Plan for specifically for Ebey Island by 2022 (1.G).
- Improve infrastructure and fish passage to enhance Chinook salmon, steelhead, and bull trout by 2024 (2.A).
- Improve public access to Ebey Island by 2023 (3.I).
- Work with partners to identify and implement ways to improve visitor safety in areas where unsafe and illegal activities occur (8.B).
- Build new pheasant net pen (9.B).

Map 4. Ebey Island Unit



## Crescent Lake Unit

*The vision for the Crescent Lake Unit is to maintain the balance of management for multiple uses, habitat enhancement through agriculture and wetland enhancements, and recreational opportunities.*



**Crescent Lake**  
Photo by Alan Bauer

### GENERAL UNIT INFORMATION

<b>Size</b>	- 359 acres
<b>Acquisition Date</b>	- 1974
<b>Acquisition Funding</b>	- National Park Service - LWCF; WA Recreation and Conservation Office - Bonds
<b>Purpose of Funding</b>	- Hunting, wildlife conservation, and wildlife-related recreation
<b>Elevation</b>	- 30-40 feet
<b>Recreational Opportunities</b>	- Wildlife viewing, hunting, fishing, bird dog training in designated areas
<b>Access</b>	South of Monroe off Highway 203

The **Crescent Lake Unit** is located three miles south of Monroe at the confluence of the Skykomish and Snoqualmie rivers. It contains 359 acres of early succession forest, sloughs, and agricultural fields. A mix of native coniferous and deciduous trees and shrubs, with a large stand of mature big-leaf maple, make up the forest. The property was acquired for wildlife conservation, as well as hunting and other wildlife-related recreational opportunities.

The unit supports a wide variety of wildlife, agricultural, and recreational uses. Trumpeter swans and migratory waterfowl such as Canada geese, snow geese, and a variety of ducks forage on the unit in the winter months. This is a very important wintering area for trumpeter swans in the region. Tundra swans also visit the area. Following these migratory birds comes an array of raptors, owls, eagles, and hawks. Elk, deer, bear, weasel, coyote, and small mammals are present on the unit.

The area was originally logged and converted to agriculture, and used by the local dairy industry until the 1960s. Crescent Lake itself is a 10-acre oxbow lake that was once part of the Skykomish River. Riley Slough runs through another former river channel and enters into the Snoqualmie River near the northwest corner of this property. There is a 25-acre marsh on this unit.

As part of the salmon recovery work in the Snohomish basin, two culvert projects were completed on the Crescent Lake unit to improve flow and remove barriers to fish passage. Over 40 years ago, Riley Slough was an important salmon-bearing stream in the Skykomish River, but dikes at the upper end of Riley and Haskel

sloughs blocked the flow of the river. To improve flow and habitat in the lower slough, WDFW replaced an undersized culvert in 2010. The removal of a second undersized culvert and the lowering of the grade in 2011 allow seasonal flow through Crescent Lake. Since then, teams of volunteers have worked to remove invasive species from the 215 acres of deciduous woodland adjoining Riley Slough, along with creating and maintaining a network of trails for seasonal hunting and recreation use.

Years of cattle grazing created trails within the forested unit, leading to edge habitat and areas for walking and wildlife viewing. A 270-foot long footbridge across the lake, originally built in 1978, was renovated in 2015.

Crescent Lake is a very popular unit with multiple user groups, including waterfowl and small game hunters, hikers, bird dog trainers, and wildlife watchers. This is a pheasant release site, and very popular with hunters. Management of the unit has led to increased presence of deer and elk, which is now attracting archery hunters. There is a gravel parking area with kiosks at the north and south ends of the property. There is one unimproved water access site on the unit.

The unit currently provides 11.5 acres of year-round bird dog training area, where all other uses of the wildlife area are allowed. Historically, off-leash dogs has been a problem on the unit. The placement of signage, increased enforcement and outreach has helped users understand the rules about pets on the wildlife area.

Crescent Lake is a good model for the other Snoqualmie units to strive for, providing a good balance of wildlife habitat and recreational opportunities.



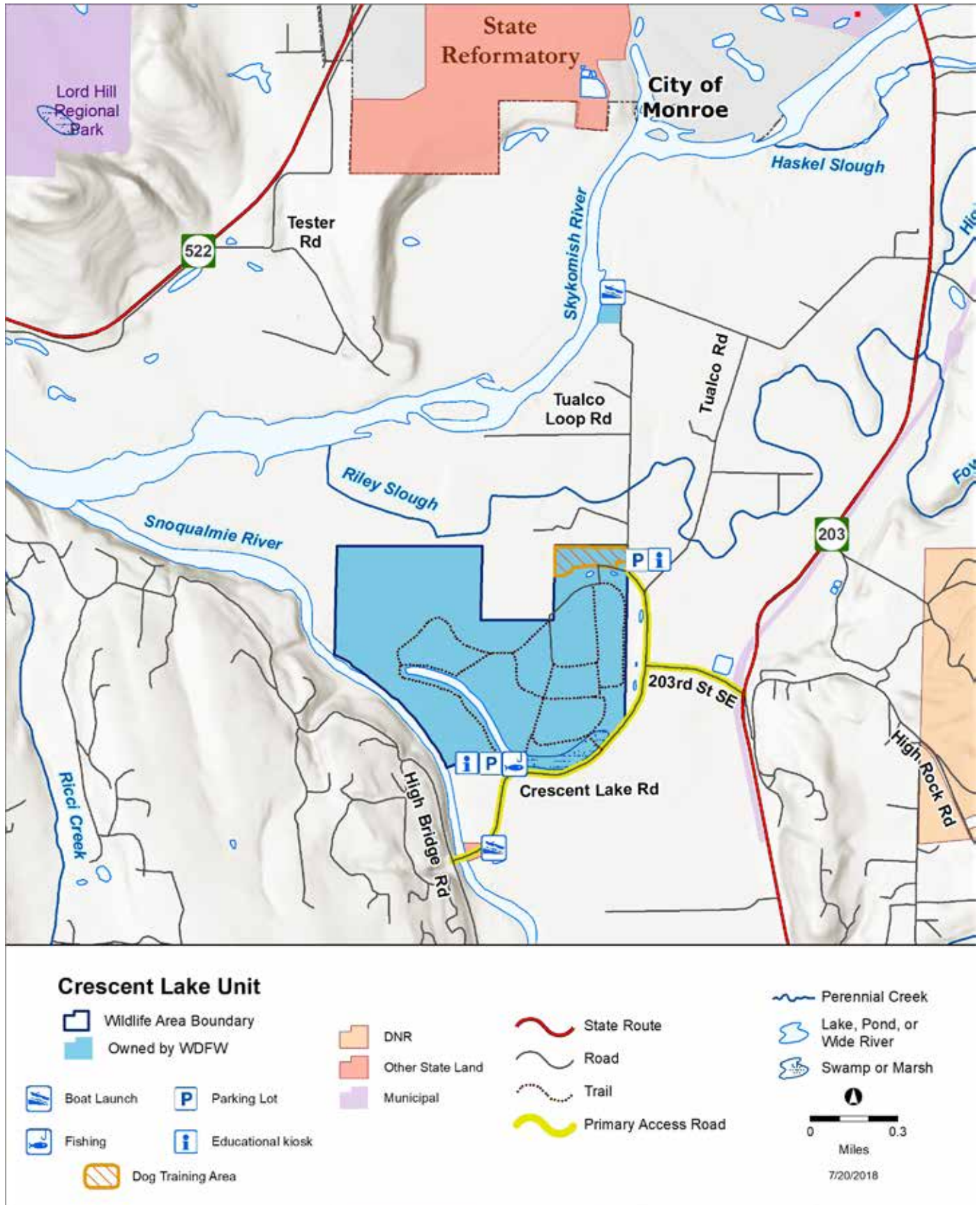
### **Primary management objectives specific to Crescent Lake Unit**

- Continue to provide identified bird dog training areas where other uses are also allowed (3.F).
- Continue to work through the WAAC to address bird dog training opportunities including events by 2020 (3.G).
- Identify opportunities to improve ADA access by identifying and prioritizing needs and funding by 2023 (3.K).
- Work with partners to identify and implement ways to improve visitor safety in areas where unsafe and illegal activities occur (8.B).



**Hunting with hound dog**  
Photo by Alan Bauer

Map 5. Crescent Lake Unit



## Cherry Valley Unit

*The vision for Cherry Valley is to expand agriculture to improve waterfowl habitat and hunting, enhance wetlands, and improve other recreational opportunities.*



**Cherry Valley Sunrise**  
Photo by Alan Bauer

GENERAL UNIT INFORMATION	
<b>Size</b>	- 392 acres
<b>Acquisition Date</b>	- 1974 and 1986
<b>Acquisition Funding</b>	- National Park Service – LWCF; WA Recreation and Conservation Office – Salmon Recovery Funds (SRFB); Donation
<b>Purpose of Funding</b>	- Hunting, wildlife-related recreation, and to use agriculture as a management tool to increase waterfowl habitat
<b>Elevation</b>	- 30-40 feet
<b>Recreational Opportunities</b>	- Wildlife viewing, hunting, bird dog training
<b>Access</b>	One mile north of Duvall on Highway 203

The **Cherry Valley Unit** is 392 acres of forest and grassland in the Snoqualmie River floodplain, one-mile north of Duvall, acquired in 1974 (a 6-acre parcel was donated in 1986). The funding contracts states that the land is for public hunting, and will be sharecropped as a management tool. The unit lies within King County's Agricultural Production Zone. It consists of a mix of native coniferous and deciduous trees and shrubs, and includes approximately 130 acres of riparian and upland forest, 120 acres of potential agricultural land, and the remainder is in wetland and stream habitat. Land in Cherry Valley is among the lowest elevation in King County, and flooding is common from mid-October to May.

In the 1900s, the land was converted from riparian forest to dairy agriculture. About 7.5 miles of natural stream courses were diverted into ditches, posing significant barriers to improving wetland function.

Agriculture was re-introduced to the unit in 2013 as a management tool, with a goal of achieving 120 acres in cropland. Agricultural goals are highly dependent on Drainage District 7's dike and ditch network that runs through the unit. WDFW continues coordinating with the District to improve drainage. Additional collaboration with Ducks Unlimited and King County Flood Control District has advanced plans for related wetland, agriculture, and salmon recovery efforts. These combined actions will help achieve local and state goals of conservation and recreation over the next 10 years.

Beginning in 2012, WDFW leveraged state funding to improve salmon habitat on the Cherry Valley Unit. There is documented presence of two ESA-listed species in Cherry Valley – Puget Sound Chinook salmon and Puget Sound steelhead, as well as extensive use of aquatic habitats by rearing coho salmon. The habitat improvement work included removing 22 fish barrier culverts and installing three bridges to improve hydrological connections and reduce seasonal flooding. The resulting free-flowing channel results in easier movement for salmon through the unit. In addition, a series of seven isolated

ponds were connected, lowering water levels during winter floods, improving habitat and forage for waterfowl, and reducing the stranding of salmon in the ponds as floodwater receded.

A project led by Wild Fish Conservancy, Ducks Unlimited, and Sound Salmon Solutions restored flow to Waterwheel Creek and its riparian habitat for salmon, trout, and waterfowl. During this project, the presence of Olympic mudminnow, a state sensitive species found only in Washington state, was documented, as well as the presence of three invasive species: largemouth bass, crappie, and catfish (Wild Fish Conservancy 2012).

Cherry Valley has an abundance of bird species, including hawks, owls, swans, geese, waterfowl, and songbirds. Deer, coyote, beaver, and river otter are among the mammals on the unit. As of 2017, elk have been observed and reported by hunters at the Cherry Valley Unit and nearby Crescent Lake Unit.

The Cherry Valley Unit provides a designated year-round bird dog training area where all other recreational uses can occur. The 2017-2018 bird dog training pilot plan has designated 65 acres for year-round bird dog training areas except during hunting season. During hunting season, it is 25-30 acres (Map 6). WDFW will continue to work with the Wildlife Area Advisory Committee, bird dog training representatives, and the WDFW Region 4 District Team on bird dog training opportunities on the wildlife area, balancing the goals of first conservation, and then recreation.

The Cherry Valley Unit has a storage barn and a pheasant pen that holds birds during the pheasant-hunting season. There is a main parking lot and kiosks for public information along State Highway 203. Recreational uses include hunting pheasant, waterfowl, and small game such as dove, rabbit, coyote, and raccoon, bird dog training, and wildlife viewing. Wildlife area recreational enhancements include an ADA (Americans with Disabilities Act) hunting blind (by reservation), a loop road for pedestrian access, and an educational/information kiosk.

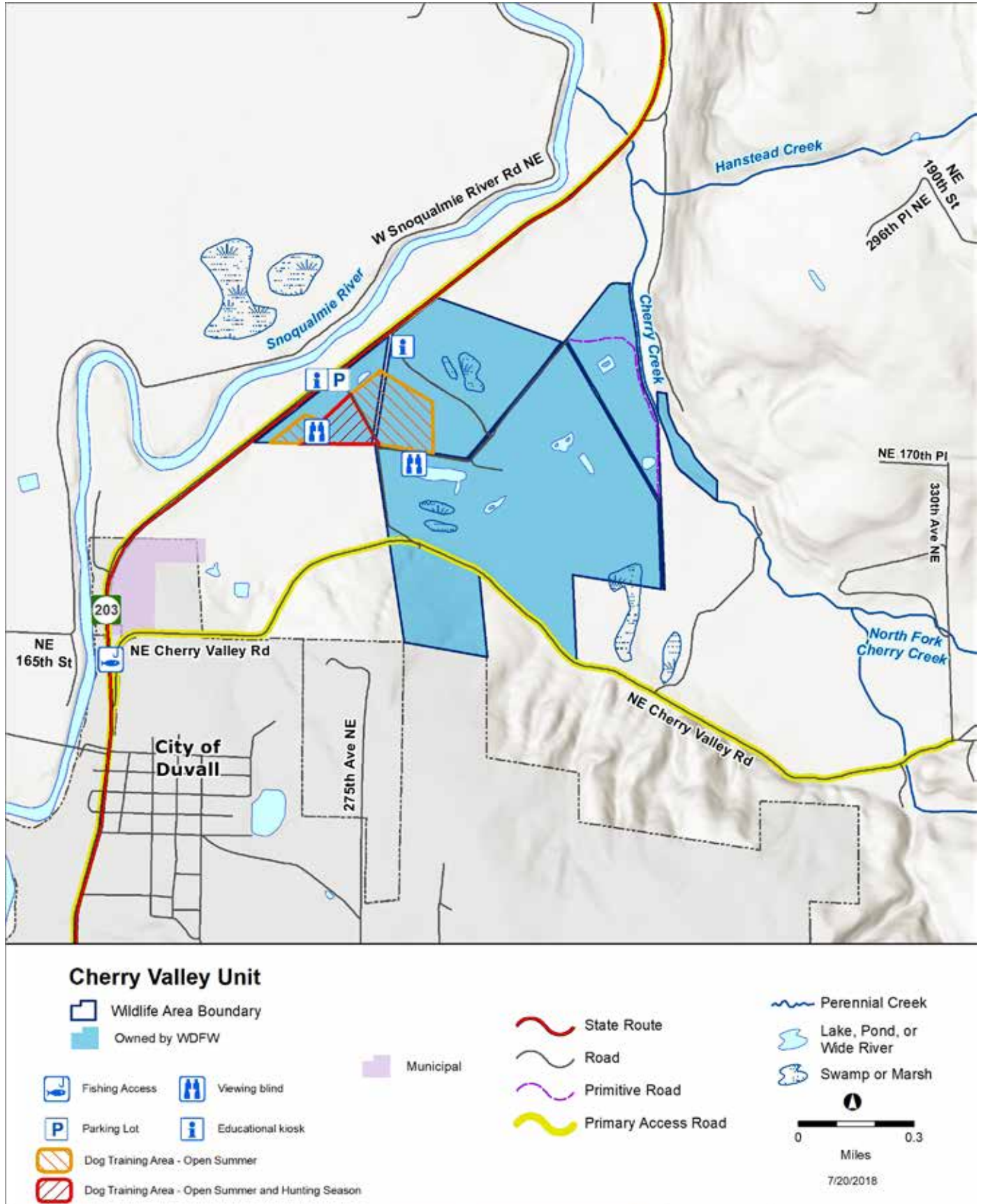
### Primary management objectives specific to the Cherry Valley Unit

- Identify and implement wetlands enhancements by 2024 (1.B).
- Explore opportunities to work with partners to identify wildlife corridors (1.I).
- Improve infrastructure and fish passage to enhance Chinook salmon, steelhead, and bull trout by 2024 (2.A).
- Continue to provide identified bird dog training areas where other uses are also allowed (3.F.)
- Continue to work through the WAAC to address bird dog training opportunities including events by 2020 (3.G).
- Identify opportunities to improve ADA access by identifying and prioritizing needs and funding by 2023 (3.K).
- Replace the barn on NE Cherry Valley Road with a shop that includes office space, bathroom, meeting room and potable water by 2020 (9.A).
- Replace aging pheasant net pen at Cherry Valley and build new net pen facility at Ebey Island by 2020 (9.B).



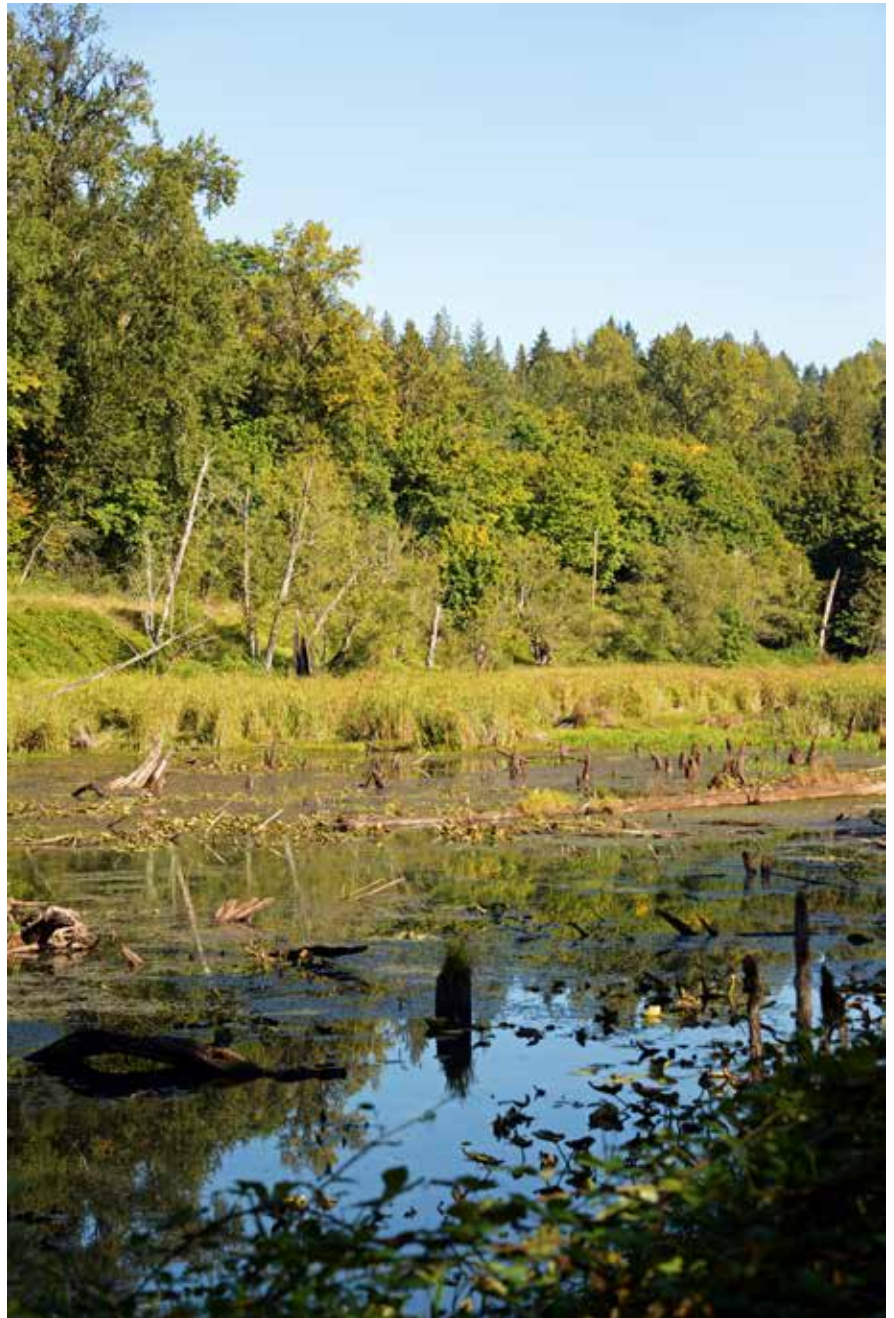
Olympic mudminnow at Cherry Valley  
Photo by Wild Fish Conservancy

Map 6. Cherry Valley Unit



## Stillwater Unit

*The vision for the Stillwater Unit is to provide maximum benefit for wildlife and habitat enhancement through agricultural and wetland restoration, and improve wildlife-related recreational opportunities.*



**Stillwater Unit**  
Photo by Alan Bauer

### GENERAL UNIT INFORMATION

<b>Size</b>	- 456 acres
<b>Acquisition Date</b>	- 1970, 1971, 1974
<b>Acquisition Funding</b>	- National Park Service – LWCF; WA Recreation and Conservation Office - Bonds; Donation
<b>Purpose of Funding</b>	- Hunting, wildlife conservation, and wildlife-related recreation
<b>Recreational Opportunities</b>	- Hunting, fishing, wildlife viewing
<b>Access</b>	- From Highway 203, between Carnation and Duvall

**The Stillwater Unit** contains a mix of active farm fields, forest habitats, wetland and stream drainages, and hedgerows and fallow grassland meadows. Logged and cleared in the 1920s, forests on the unit consist of a mix of deciduous and coniferous trees. Seasonal flooding is common and can inundate the entire unit. Stillwater has three small oxbow lakes – two connected to Harris Creek during high flow events and one that is a separate drainage. Harris Creek runs through the west corner of the property before emptying into the Snoqualmie River.

From 2008 through 2016, salmon recovery projects detailed in the 2006 Snoqualmie Wildlife Area Management Plan were completed. Projects included fish passage improvements, Snoqualmie River revetment setback, and over 40 acres of riparian restoration along the Snoqualmie River and Harris Creek. WDFW completed these cooperative restoration projects with key partners such as Ducks Unlimited, Wild Fish Conservancy, King Conservation District, King County Flood Control District, and Sound Salmon Solutions.

Historically, agriculture was an important tool for habitat management of the Stillwater Unit. During the 1980s, local agriculture collapsed. By the 1990s, fields were being overtaken by noxious weeds. Agriculture was returned to the unit in 2014 to help control weeds. As of 2018 there are 90 acres under agriculture leases. The long-term goal is to recover approximately 120 acres in crops that benefit wildlife, habitat, recreational opportunities, and the local agriculture economy.

An additional major management goal of the Stillwater Unit is to identify and implement wetland enhancement projects. The goal of this work is to improve salmon rearing habitat, provide refuge from floods, and provide cold-water inputs for summer stream flows.

Popular activities on the unit include waterfowl and pheasant hunting. There are also opportunities in deer and elk archery hunting. In 2017, archery hunters harvested three bull elk at the Stillwater Unit, the first since the herd began residing there in 2014. Active management of the lands, including maintaining agriculture crops, managing weeds, and reducing presence of off-leashed dogs, has contributed to the return of elk to the area. Hunters and wildlife viewers are encouraged by emerging opportunities to see and hunt deer and bear, and to incorporate elk archery hunting. The wildlife area also hosts cougar, bats, neotropical migrant birds, and resident passerine birds.

Wildlife viewing and walking are popular activities at the Stillwater Unit. The King County Parks and Recreation Department owns and manages the Snoqualmie Valley Trail, which skirts the unit's eastern boundary. Visitors to the wildlife area have to cross this trail to get into the WDFW lands, which leads to some challenges for management of dogs. The county and WDFW have policies that dogs must be leashed. As in all WDFW land, dogs must be leashed unless otherwise posted.

There are two parking areas adjacent to Highway 203 with information kiosks. A series of internal farm roads and foot trails provide user access to much of the unit.

### **Primary management objectives specific to the Stillwater Unit**

Identify and implement wetlands enhancements by 2024 (1.B).





## Part II: Wildlife Area Management and Planning

# Land Ownership and Management

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## Acquisition History, Funding, and Purpose

Acquisitions for the Snoqualmie Wildlife Area occurred between 1964 and 2017, with the first and most recent purchase being the Ebey Island property. Most lands were purchased with a combination of state and federal funds: WDFW State Wildlife Fund, Washington Recreation and Conservation Office (RCO), legislative appropriation, Migratory Bird Stamp, National Park Service, and U. S. Fish and Wildlife Service, as well as private donations. Funding for each unit is identified in the Unit Descriptions section on page 20.

WDFW works closely with conservation groups, recreation groups, local governments and diking and drainage and other local districts, and user groups to identify priorities for purchase, management, and restoration of the lands. Many of the units of the wildlife area are near public and private conservation land holdings. Coordinating with stakeholders on restoration efforts offers an opportunity to improve habitat quality and management on a much larger scale. Acquiring the Spencer Island Unit, in particular, was critical in reducing the fragmentation of habitat. It has facilitated a coordinated management strategy throughout much of the lower Snohomish Watershed. While no new acquisitions are planned at this time, WDFW will continue to engage with partners if potential properties are identified where WDFW ownership is a good conservation fit. All potential new acquisitions go through internal vetting at WDFW to determine if they make sense for agency ownership, including sending them through a set of Strategic Acquisition Principles. This process, Lands 20/20, also includes a public comment period and briefing to the Fish and Wildlife Commission.

## Operating Funds

Operating funds to manage the Snoqualmie Wildlife Area come from two main sources: Federal Aid in Wildlife Restoration Act (Pittman-Robertson) funds, and state wildlife account funds. Pittman-Robertson (PR) funds come from a direct federal appropriation via contract agreement for states and are derived from an 11 percent federal excise tax on sporting arms, ammunition, and archery equipment, and a 10 percent tax on pistols, handguns and revolvers. Federal PR funds are to be used

for activities that support wildlife habitat conservation and hunting. State wildlife account funds provide a 25 percent match for Federal Aid dollars as well as other state costs not attributed to the federal contract agreement. These state wildlife account funds used to support the Snoqualmie Wildlife Area are mainly generated from the departments' license fee revenue from the sale of hunting and fishing licenses, and are appropriated by the legislature. Additionally, state wildlife account funds may consist of moneys received from rental or concessions, the sale of real or personal property, administrative penalties, sale of other statutorily prescribed license fees, permit, tags and stamps, fees for published materials, fees for personalized vehicle plates, articles or wildlife sold by the director, and compensation for damage to department property. These funds may contribute to the overall support for all operations and maintenance, including staff salaries on the wildlife area.

WDFW will, as part of the implementation of this plan, submit grant proposals and applications, develop partnerships with other agencies and organizations to maximize funding options, and identify other strategies to address unfunded management needs on the wildlife area.

## Leases, Agreements, and Water Rights

### Agricultural Leases

Maintaining and expanding agriculture is part of the vision for the wildlife area as it is a tool that provides multiple benefits for wildlife, habitat, and the local economy. Agriculture supports local farmers and preserves farmland, consistent with the vision of Snohomish Fish, Farm, and Flood Advisory Committee. It is also an effective tool for weed management and provides benefits for multiple species. This includes maintaining short grass meadows for use by Canada geese and numerous species of ducks, providing food and cover for upland birds, forage for deer, and increasing diversity on the landscape.

Over 700 acres of land on the wildlife area are potentially available for agricultural leases based on available land and wildlife management objectives. Wildlife area and regional staff negotiate leases, develop farm plans in collaboration with lessees and oversee farming activities on leased sites. Four units at Snoqualmie Wildlife Area can support more

agriculture: Ebey Island, Cherry Valley, Crescent Lake, and Stillwater (see Table 2). At the time of this plan, 442 acres are leased. Leases are negotiated every three years and designed to meet needs of the agency, wildlife, the farmer, and the community.

### Easements, Other Leases and Agreements

Easements are a right, held by an entity other than the underlying fee title land owner, to cross or otherwise use a portion of the land for a specified purpose. WDFW holds easements for public recreational access, conservation, and property management throughout the state. Other entities also hold easements on many of the Snoqualmie Wildlife Area units, and are considered in wildlife area management activities. For example, Olympic Pipeline holds an easement for the purposes of construction, operation, and maintenance over and across parts of Ebey Island. NW Pipeline Inc. has an easement under Spencer Island. The Department of Transportation also holds airspace

agreement and highway slope easement. WDFW also leases private land for a trail and parking in Ebey Island.

### Water Rights

There are no active water rights on the wildlife area.

**Table 2: Agricultural Lease Summary by Unit**

Unit	Agriculture Leases (as of 2018)	Total Potential Acreage
Ebey Island	150 acres	350 acres
Crescent Lake	112 acres	112 acres
Cherry Valley	90 acres	120 acres
Stillwater	90 acres	140 acres
<b>TOTALS</b>	<b>442 acres</b>	<b>722 acres</b>



**Stillwater Cornfield**  
Photo by Alan Bauer

# Management Setting

## Administration and Staffing

The Snoqualmie Wildlife Area is located in WDFW's Region 4, headquartered in Mill Creek. While all of WDFW's wildlife areas are operated under the Lands Division, the Regional Wildlife Program Manager provides supervision at the regional level. The Skagit Wildlife Area and the Whatcom Wildlife Area are also managed out of Region 4.

## Facilities, Maintenance, and Road Management

The wildlife area staff are responsible for a range of duties including managing the public use and recreation on the units, maintaining equipment, and repairing and improving facilities and other wildlife area infrastructure to support fish and wildlife management, consistent with agency objectives. Trash cleanup, weed management, and sign and fence repair are regular tasks.

A field office for the wildlife area manager and meeting space is available near the Crescent Lake Unit. A barn on the Cherry Valley Unit is used for equipment storage. Other facilities include 11 kiosks, 3 viewing platforms,

and 9 parking areas for visitors. The kiosks are inspected regularly and maintained as needed to provide updated information for wildlife area users. There are no restroom facilities on any of the units.

Roads within the wildlife area that serve as important access routes for the public as well as for management activities are the highest priority for maintenance and improvement. A network of state, county, and WDFW roads provides access to the Snoqualmie Wildlife Area. (See Map 1 – Snoqualmie Wildlife Area Units and Vicinity on page 21).

Roads within the wildlife areas that are posted with “No Unauthorized Vehicles Beyond This Point” are only open to WDFW or other authorized vehicle use. Walk-in use is allowed. Seasonal road closures are implemented annually to limit disturbance to priority species, to limit access during wet and flooded conditions and to protect roads and adjacent areas from damage.

## Local Land Use Compliance

Four wildlife area units fall under the jurisdiction of Snohomish County, and two under King County. Land

**Table 3: Land Use Designations by Wildlife Area Unit**

Wildlife Area Unit	Comprehensive Plan Land Use Designation and Zoning*	Shoreline Management Plan Designation	Other Information
<b>SNOHOMISH CO.</b>			
Corson Natural Area	R-5		
Spencer Island	Ag-10	Resource shoreline	
Ebey Island	Ag-10	Resource shoreline	
Crescent Lake	Ag-10	Resource shoreline	
<b>KING CO</b>			
Cherry Valley - In the floodplain - Out of floodplain	A-35 agriculture RA-10	Resource shoreline	Agricultural Production District**
Stillwater - In the floodplain - Out of floodplain	A-35 agriculture RA-10	Resource shoreline	Agricultural Production District

\* see <http://www.kingcounty.gov/depts/permitting-environmental-review/gis.aspx> and <https://snohomishcountywa.gov/3411/Corresponding-Zoning-and-Land-Use-Design>

\*\* Agricultural Production Districts are areas designated where the principal land use should be agriculture.

use must be consistent with each county's Natural Resource Ordinance, Critical Areas Ordinance and Shoreline Management Plan. Table 3 identifies the land use designations adjacent of the wildlife area.

## **Cultural Resources**

State and federal law requires the protection of cultural, geological, and other non-renewable resources. Such resources may not be removed unless determined to be beneficial to wildlife, habitat, or for scientific or educational purposes. WDFW coordinates with appropriate agencies and tribes for the protection of such resources if any activity affects cultural, archaeological, or historic resources. This includes the removal of various rock formations, Native American artifacts, plants, seeds, and other items. Any action on the land that disturbs the ground requires a cultural resources survey.

## **Enforcement**

WDFW enforcement officers perform a wide range of duties that protect natural resources, the communities and economies that rely on them, and visitors. They approach this work in four main ways: enforcement, education, partnerships, and community involvement.

Fish and wildlife officers possess statewide jurisdiction under a general authority law enforcement commission. They collaborate closely with local agencies and federal agencies, where applicable.

The highest priority on all wildlife areas is enforcement of fish and wildlife laws under Title 77 RCW. Officers have a demanding job and often deal with issues related to poaching, threatened and endangered species protection, habitat protection, and compliance with the vehicle access program. A core duty of officers is protecting the public. They work closely with emergency management agencies and play an important role in emergency management statewide.

Enforcement officers covering King and Snohomish Counties often have more pressing issues that require enforcement presence. Officers rely on voluntary compliance, and many officers are educators and community organizers. They may teach hunter education classes, make presentations to local school children,

community groups or civic organizations, or collaborate with other organizations to educate the public about natural resource issues.

WDFW officers deal with a variety of issues at the Snoqualmie Wildlife Areas including vandalism, presence on wildlife area without a vehicle access pass or Discover Pass, off-leash dogs and dispersed dog activity, hunting violations, graffiti and garbage dumping.

A growing concern for enforcement in the region and public relations are wildlife conflicts and enforcement issues relating to large mammals such as black bear, cougar, and elk. Development pressures lead to loss of habitat and push these animals into the rural/urban setting, making the wildlife areas more important as refuges for them.

Signs posted on the wildlife areas are very specific to what activities are and are not acceptable. More enforcement presence is needed to handle all of the issues that occur.

As part of this plan, WDFW will take actions to improve safety and security, and explore options of increasing citizen involvement in reporting illegal activities. The wildlife area staff will continue to encourage hunters and all other users to participate in "Eyes in the Woods", a program that helps coordinate volunteer efforts to report violators and improve safety and conservation on public land. Working collaboratively with local public safety organizations is crucial to provide public safety.

For more information, see the WDFW Master Hunter page (<https://wdfw.wa.gov/hunting/masterhunter/>) and select C.O.R.T).

## **Stewardship and Volunteerism**

The Snoqualmie Wildlife Area has benefited from the long-term participation of groups and individuals who volunteer on a variety of projects to support the agency's conservation and recreation objectives. An important objective of this plan is to strengthen and continue to expand these partnerships and uncover more opportunities for interested public to engage with the wildlife area. If you have ideas about a new project, or want to get involved in a current project, visit the WDFW website for information about how to contact the WDFW Region 4 Volunteer Coordinator or the Wildlife Area Manager.

Typical opportunities include:

**Restoration:** Sound Salmon Solutions, Wild Fish Conservancy, and Ducks Unlimited utilize citizen volunteers to assist with restoration tasks.

**Hunting Improvements:** Master Hunters, Eagle Scouts, and community volunteers conduct projects to improve access for hunters and other users.

**Trails, Weed Control:** The elevated hiking trail on the Spencer Island dike is being maintained annually with numerous community volunteer hours through the Master Hunters.

**Infrastructure Improvements:** Local businesses, agricultural leaseholders, sportsman's clubs and schools provide labor and materials necessary to rebuild and maintain infrastructure on the wildlife area. This includes pheasant pen renovation and repair, signboard construction, boardwalk and footbridge repair, building materials such as equipment, operators, lumber, gravel, and wood chips.

**Citizen Science:** Volunteers assist the agency by working under the direction of agency staff and researchers or other organizations on scientific projects or information gathering. Examples of successful citizen science projects include collaborating with Bats Northwest and Puget Sound Bird Observatory to collect data on bats and birds (see Success Stories on page 13). Two amphibian monitoring projects are being carried out, one by the Woodland Park Zoo in Seattle and one by Oxbow Farm and Conservation Center. Though not WDFW projects, the monitoring will occur on the Snoqualmie Wildlife Area units.

## Recreation Overview

This section describes permissible recreational activities and facilities on the wildlife area and information about nearby water access sites. As the population of the Snoqualmie Valley increases, so does the demand for recreational uses on the wildlife areas. All WDFW lands, including the Snoqualmie Wildlife Area, are strategically developed based on the conservation needs of fish and wildlife, and provide sustainable fishing, hunting, wildlife viewing and other recreational opportunities when compatible with healthy and diverse fish and wildlife populations and their

habitats (see Table 4). This is different from the focus of other state, federal and local public lands.

Wildlife area staff are responsible for managing public use. This includes providing accurate and up to date signage and information on the agency website, indicating what recreation activities are permissible and if any local restrictions apply. All state wildlife areas are governed by the agency's Public Conduct Rules ([https://wdfw.wa.gov/lands/public\\_conduct\\_rules/](https://wdfw.wa.gov/lands/public_conduct_rules/)), and, in addition, may have local requirements tailored to the area and its natural features, habitats and species. Staff works with volunteers to make improvements to recreation areas, and collects public input to help prioritize funding needs (e.g. kiosks, parking areas, viewing platforms, etc.). Overcrowding occurs, especially on weekends and in the fall during the hunting season.

**Bird Dog Training Club Activities:** Members of bird dog training clubs and other dog trainers participated in a pilot program in the 2017 and 2018 season to test expanding the Cherry Valley bird dog training areas. Staff and volunteers developed and implemented a pilot volunteer maintenance plan for the season. WDFW will continue working on dog training opportunities through the Wildlife Area Advisory Committee, bird dog training representatives, and the WDFW Region 4 District Team. The goal is to provide quality opportunities for bird dog training including identified areas where bird dog training can occur and allowances for training days and events as compatible with the conservation and other recreation priorities on the wildlife area.

**Water Access Sites Summary:** Within the boundaries of the Snoqualmie Wildlife Area, there is only one water access site, which is just a parking area, on the south end of the Crescent Lake unit. Just outside the unit on High Bridge Road, there is an access site to the Snoqualmie River with a boat launch. Spencer Island is commonly accessed via the Marysville City boat launch. Water access improvements are planned for the Ebey Island Unit. Some of the water access sites in the general vicinity of the wildlife area units include Lake Cassidy, Lake Stevens, and on the Snohomish, Snoqualmie, and Skykomish rivers. The majority of these sites were purchased for fishing opportunities, and support boating and other water recreation activities.

**Table 4: Recreational Opportunities on the Snoqualmie Wildlife Area Units**

<b>Wildlife Area Unit</b>	<b>Primary Hunting and Fishing</b>	<b>Other Recreation</b>	<b>Education/ Interpretation</b>	<b>Restrictions and Comments</b>	<b>Parking and other facilities</b>
<b>Corson Natural Area</b>	None	Wildlife viewing	Information kiosk Pre-arranged group tours/events	Pre-arranged access for groups only (in 2018) No parking	Trail, Viewing platform
<b>Spencer Island</b>	Waterfowl Limited fishing	Wildlife viewing Walking	Information kiosk Interpretive signs	Access through City of Everett property and Snohomish County	Small parking area (City of Everett) Mile long trail
<b>Ebey Island</b>	Pheasant Waterfowl Small game Salmon	Wildlife viewing Walking	Three information kiosks Partnership with YMCA – future outdoor education	Focus is restoration over recreation	Parking areas at three sites
<b>Crescent Lake</b>	Pheasant Waterfowl Upland birds Deer, Elk Small game	Wildlife viewing Walking Bird dog training	Two information kiosks	Bird dog training in designated area only (other uses can occur there as well)	Two parking areas Trail network Water access parking area
<b>Cherry Valley</b>	Pheasant, Waterfowl Small game Potential deer and elk for archery hunt Warm water fish species	Wildlife viewing Walking Bird dog training	Two information kiosks Three observation platforms	Bird dog training in designated area only (other uses can occur there as well)	Parking area Hunting blind Water access site
<b>Stillwater</b>	Pheasant Waterfowl Upland birds Deer, Elk Small game Warm water fish species	Wildlife viewing Walking	Two information kiosks	Access is across King County's Snoqualmie Valley Trail	Two parking areas Trail network



**Hunting:** A variety of hunting opportunities are available on the wildlife area, the quality of hunting is improving, and number of hunters are increasing. Waterfowl hunting is from the early September goose season typically through the end of January. WDFW joined with Pheasants Forever, Washington Waterfowl Association, and other hunting organizations to offer Youth - Mentor Hunts. The hunt takes place during the special youth season in September. Small game hunting occurs on all units except Spencer Island and Corson. Always review WDFW's hunting pamphlets for seasons and rules (<https://wdfw.wa.gov/hunting/regulations/>). There are more opportunities for hunters during deer and elk archery season as the populations increase in some of the units, such in Crescent Lake.

**Dog Presence on the Wildlife Area:** People have been bringing dogs to the Snoqualmie Wildlife Area for many years for hunting, training, and walking. Dog walking is not considered wildlife-related recreation and conflicts with many user groups and wildlife management goals. State rule (WAC 220-50-170) requires that dogs be leashed while on WDFW land unless otherwise posted. Dog presence must be managed so that it is compatible with other WDFW conservation and recreation priorities. A long history of dog-related issues has been communicated in previous Wildlife Area Management Plans in 1993 and 2006. Because of staffing and other issues, no immediate action was taken, and dog presence – dog training and off-leash dogs – was not actively managed. In an era of continued local population growth and increased user interest, dog related activity, compliance, and conflicts will be closely monitored and appropriate management actions taken.

WDFW efforts to inform visitors of the leash laws and posting the rules has led to better compliance. However, even leashed dogs affect wildlife (Oregon Metro Parks 2016; Intagliata 2008). Local monitoring and staff observations also reflect wildlife behavior change in response to dog-related activity on the Snoqualmie Wildlife Area units. In 2013, staff began monitoring dog presence. Over 500 dogs were noted per week on the

wildlife area. Complaints were received from user groups including hunters, bird watchers, wildlife viewers, and bird dog trainers concerning the high number of “pets” impacting their activities. Dog-related wildlife harassment was observed and recorded.

Waterfowl and pheasant hunting are popular activities on the wildlife area, and for many hunters, this means hunting with dogs. Training bird dogs for hunting is an activity supported by WDFW on the Snoqualmie Wildlife Area, outside of the nesting season. These designated areas can also be used for other recreational activities as the rest of these units. Training occurs at designated areas on the Crescent Lake and Cherry Valley units year-round. WDFW will work with the Wildlife Area Advisory Committee, bird dog training representatives, and the WDFW Region 4 District Team to further define the opportunities for bird dog training. Opportunities for involvement by other stakeholders and the public will occur through the Advisory Committee process.

Alternative places for people to walk their pets and off-leash dog areas are widely available and represent a more suitable location for pet walking enthusiasts. A variety of these nearby locations include Snohomish County Parks, McCormick Park, Lord Hill, Cavelaro Hills, Willis Tucker, Tambard Creek, and Lake Stickney. See Snohomish County Parks and Recreation for details: <https://snohomishcountywa.gov/1117/Dog-Parks>. In King County, Marymoor Park has an off leash area, as well as many others. Go to <https://www.kingcounty.gov/services/parks-recreation/parks/parks-and-natural-lands/popular-parks/marymoor/offleash.aspx>. Local cities also provide a variety of locations for off-leash dog activity.

**Wildlife Viewing:** The wildlife area provides abundant wildlife viewing opportunities. While deer and elk can be spotted, as well as some small mammals, the area is a prime birding location. The wildlife area is in the Pacific Flyway (see page 63) and provides feeding and resting stops for migratory waterfowl and swans and neotropical songbirds. A wide range of species occupy the area year-round as well.



**American Redstart, Stillwater**  
Photo by WDFW Staff

## Research and Other Studies

Consistent with WDFW's mission to preserve, protect and perpetuate fish, wildlife, and habitat, WDFW supports independent studies and monitoring activities to achieve wildlife area objectives. There are no planned research or studies planned for the Snoqualmie Wildlife Area at this time. The amphibian surveys conducted by the Woodland Park Zoo and Oxbow are the newest citizen science projects happening at the wildlife area, as well as continued

bird monitoring activities. In the past, acoustic surveys to provide baseline data about bats and other species that forage on the wildlife area were conducted. In addition, observation and documentation of bird species using newly restored riparian areas is another product of surveys at the Stillwater Unit. See Appendix A for a species occurrence list from data collected in 2008, 2009, 2010, and 2013. Additional surveys may occur for 2018 and 2023. (See the Citizen Science section and Success Stories on page 13).

# Wildlife Area Goals, Objectives, and Monitoring

## Overview of Goals and Objectives

This plan sets management priorities for the Snoqualmie Wildlife Area for the next 10 years. An interdisciplinary team of regional and headquarters staff, with input from the Snoqualmie Wildlife Area Advisory Committee, the public, and other agency staff, developed the goals, objectives and performance measures in this plan. They are consistent with WDFW's Mission and Strategic Plan. Goals, objectives, and performance measures for the Snoqualmie Wildlife Area follow.

The objectives listed in this plan may or may not be fully funded; in many cases, successful outcomes will be dependent on additional funding.

Under the "Tasks" column, climate change considerations have been included where appropriate.

## Monitoring and Adaptive Management

Wildlife area objectives are to be measured annually based on the associated performance measures and through staff annual evaluations. On a biennial basis, the Snoqualmie Wildlife Area manager will review, report and revise, as appropriate, objectives and performance measures for the next two-year cycle. Staff will engage and develop recommendations for the two-year update with the WAAC and regional district team. Such reporting will allow the managers, their staff, and the regional office, to modify tasks and timelines as necessary to meet the associated objective. Further, over the term of the Plan (10 years), performance illustrates the adequacy or inadequacy of funding and capacity to successfully manage the wildlife area, potentially influencing goals and objectives in the next planning term.



Snoqualmie Wildlife Area - Ebey Unit  
Photo by Alan Bauer

**Table 5: Goals, Objectives, and Performance Measures**

Goal	Draft Objective	Unit	Performance Measure	WDFW Lead	Tasks (Actions)
<p><b>Statewide Goal: Restore and protect the integrity of priority ecological systems and sites.</b></p> <p>1. Maintain or improve the ecological integrity of priority systems and sites.</p>	<p>A. Establish an ecological integrity (EI) baseline and associated goals for the ecological systems of concern and priority systems and establish EI goals by 2023.</p>	<p>All</p>	<p>1) Baseline established (Y/N) 2) Ecological integrity goals established (Y/N)</p>	<p>Ecological Integrity Monitoring Team</p>	<ul style="list-style-type: none"> <li>- Work with the Wildlife Area (WLA) Manager to establish EI goals.</li> <li>- Work with WLA Manager to design monitoring plan to achieve Objective A. over 10-year planning term.</li> <li>- Provide EI baseline report to WLA manager prior to start of subsequent 10-year planning term.</li> <li>- The ecological integrity baseline should include parameters that can provide a baseline for assessing climate change impacts.</li> </ul>
	<p>B. Identify and implement wetlands enhancements by 2024.</p>	<p>Stillwater Cherry Valley</p>	<p>1) Number of enhancement projects identified 2) Number of projects designed 3) Number of projects built</p>	<p>Habitat WLA Manager Restoration Project Coordinator</p>	<ul style="list-style-type: none"> <li>- Work with drainage districts and others to prioritize opportunities for drainage and infrastructure improvements.</li> <li>- Work with Ducks Unlimited to develop wetland projects with NAWCA funds.</li> <li>- Consider future climate data in design of restoration opportunities.</li> </ul>
	<p>C. Implement the Weed Management Plan annually.</p>	<p>All</p>	<p>1) Number of acres of noxious weeds inventoried and locations identified. 2) Number of acres of noxious weeds treated 3) Percent control of noxious weeds 4) Number of partners coordinated with 5) Number of county high priority species treated 6) Number and type of treatments deployed 7) Identify and apply for funding sources to implement noxious weed control. 8) Annual Weed Management Report produced (Y/N)</p>	<p>WLA Manager</p>	<ul style="list-style-type: none"> <li>- Inspect for noxious and invasive infestations annually, focusing efforts on high priority noxious weed species.</li> <li>- Coordinate with partners such as county noxious weed control programs on priority species for targeting.</li> <li>- Document new infestations for active control efforts.</li> <li>- Develop work plan annually.</li> <li>- Implement weed management plan.</li> <li>- Complete annual reporting requirements. Include percent control of noxious weeds and method of control, and high priority county noxious weed species on the wildlife area.</li> </ul>

Goal	Draft Objective	Unit	Performance Measure	WDFW Lead	Tasks (Actions)
1.	D. Inspect all gates and fencing at public access points annually, and repair and replace as needed and as funding allows.	All	1) Number of fencing repairs 2) Number of gates inspected and repaired 3) Number of vandal incidences resolved	WLA Manager	<ul style="list-style-type: none"> <li>- Inspect fences and gates annually.</li> <li>- Repair damaged fences and gates.</li> <li>- Identify new fencing needs.</li> <li>- Respond to incidences of vandalism.</li> <li>- Submit Capital Funding request for replacement of new fence or gate.</li> </ul>
	E. Conduct informal surveys for presence of aquatic noxious and invasive species of flora and fauna by 2023.	Ebeye Island Spencer Island	1) Number of informal surveys conducted 2) List of identified species produced (Y/N)	District Wildlife Biologist	<ul style="list-style-type: none"> <li>- Seek opportunities to conduct surveys for invasive species.</li> <li>- Explore using citizen scientists or other partners for surveys.</li> <li>- Explore options for funding for scientific surveys.</li> </ul>
	F. Identify existing and potential habitats that support diversity (non-game) species and plan for improvement of habitat function by 2025.	All	1) Existing or potential habitats for priority diversity species identified (Y/N) 2) Actions identified to benefit diversity species (Y/N)	District Wildlife Biologist Wildlife Diversity Division Habitat Program	<ul style="list-style-type: none"> <li>- Identify habitats that support diversity species, including wetland habitat.</li> <li>- Identify actions for the near-term (2-3 years).</li> </ul>
	G. Develop a Master Land Management Plan for Ebeye Island by 2022.	Ebeye Island	1) Funding secured for plan development (Y/N) 2) Master plan completed (Y/N)	Restoration Project Coordinator District Wildlife Biologist Habitat Program Fish Program WLA Manager	<ul style="list-style-type: none"> <li>- Identify and apply for multiple funding sources.</li> <li>- Use the Restoration Pathway to develop the plan.</li> <li>- Include local partners in planning process.</li> <li>- Build support for the plan in community.</li> <li>- The design of restoration plan should consider how rising sea levels, storm surge, and flood risk would affect the site.</li> </ul>
	H. Identify restoration and monitoring needs by 2022 and address the feasibility of implementing restoration on these units.	Spencer Island Cherry Valley Crescent Lake Stillwater	1) Restoration and monitoring needs identified (Y/N) 2) Number of funding opportunities applied for 3) Number of successful grants received 4) Number of restoration and monitoring projects initiated and number completed	Habitat Program, Fish Program Restoration Project Coordinator District Wildlife Biologist WLA Manager	<ul style="list-style-type: none"> <li>- Work with partners and local jurisdictions on restoration and monitoring priorities.</li> <li>- Use Restoration Pathway to identify and develop projects.</li> <li>- Use local monitoring data to prioritize projects.</li> <li>- Identify and apply for funding.</li> <li>- Identify opportunities for stakeholder and volunteer participation.</li> <li>- Restoration priorities should be guided by how climate might affect future ecological conditions, and how climate might affect species and habitats of greatest conservation need.</li> </ul>

Goal	Draft Objective	Unit	Performance Measure	WDFW Lead	Tasks (Actions)
1.	I. Explore opportunities to work with partners to identify wildlife corridors.	Cherry Valley	1) Partners identified (Y/N) 2) Corridors identified (Y/N)	District Wildlife Biologist Habitat Program	<ul style="list-style-type: none"> <li>- Coordinate with City of Duvall on ESA study to address how habitat corridors can reach Cherry Valley.</li> <li>- Identify other partners.</li> </ul>
<b>Statewide Goal: Sustain individual species through habitat and population management.</b>					
2.	Achieve species diversity at levels consistent with healthy ecosystems.	Ebey Island Spencer Island Cherry Valley	1) Number of projects identified 2) Number of projects completed	Habitat Program Fish Program	<ul style="list-style-type: none"> <li>- Work with Drainage District #7, Wild Fish Conservancy and other organizations to explore floodplain options including set back of the Cherry Creek levee to restore fish habitat.</li> <li>- Identify improvements.</li> <li>- If any stream crossing infrastructure is planned (culverts or bridges), apply the climate informed culvert guidelines.</li> <li>- Advance project through the Restoration Pathway in partnership with the US Army Corps of Engineers.</li> <li>- Projected changes in sea level rise, tidal mixing dynamics, and sediment flow should be assessed as part of restoration project design.</li> </ul>
	B. Improve rearing habitat for juvenile Chinook salmon and other salmon species by 2028.	Spencer Island	1) Funding package secured for design with the US Army Corps of Engineers (Y/N) 2) Design developed with input from stakeholders (Y/N) 3) Project advanced to construction through the Restoration Pathway (Y/N)	Wildlife Program Habitat Program Fish Program	<ul style="list-style-type: none"> <li>- Explore options with partners for how to conduct survey (citizen science, etc.).</li> <li>- Identify funding and staffing to develop survey.</li> </ul>
	C. Research means to conduct survey of invertebrate and amphibian Species of Greatest Conservation Need (SGCN) – by 2020.	All	1) Number of partners contacted 2) Survey partners identified (Y/N)	Wildlife Diversity Division District Biologists	
<b>Statewide Goal: Provide fishing, hunting, and wildlife-related recreational opportunities, consistent with Goals 1 and 2.</b>					
3.	Support and maintain appropriate recreation opportunities.	All	1) Priority topics and areas for signage identified (Y/N) 2) Seasonal signage installed and updated (Y/N) 3) Hunting safety zone signs in place and maintained (Y/N)	WLA Manager Enforcement	<ul style="list-style-type: none"> <li>- Identify issues and areas.</li> <li>- Provide input to statewide recreation process about need for clear guidance.</li> <li>- Informally assess compliance rates.</li> <li>- Implement Lands Showcase recommendations for signage and other public information, as appropriate.</li> </ul>
	B. Continue to provide pheasant hunting opportunities where compatible with other management actions.	Crescent Lake Cherry Valley Stillwater Ebey Island	1) Percent increase in annual pheasant production / acquisition 2) Percent increase in number of pheasant delivered to Snoqualmie WLA 3) Potential new lands for pheasant hunting identified (Y/N)	WLA Manager Game Farm Manager	<ul style="list-style-type: none"> <li>- Work with farm manager to increase pheasant production at the Bob Oke Pheasant Farm.</li> <li>- Coordinate with farm manager to prioritize pheasant distribution to Snoqualmie WLA.</li> <li>- Explore feasibility of increasing production or acquisition of pheasant off-site.</li> </ul>

Goal	Draft Objective	Unit	Performance Measure	WDFW Lead	Tasks (Actions)
3.	<p>C. mprove habitat for huntable wildlife using agriculture and aquatic enhancements.</p> <p>D. Manage the wildlife area to improve deer and elk hunting and waterfowl hunting opportunities.</p> <p>E. As they arise, pursue acquisition opportunities adjacent to WLA to provide more acreage for hunting and wildlife related recreation.</p> <p>F. Continue to provide identified bird dog training areas where other uses are also allowed.</p> <p>G. Continue to work through the WAAC to address bird dog training opportunities including events by 2020.</p>	<p>Ebey Island Crescent Lake Cherry Valley Stillwater</p> <p>Ebey Island Crescent Lake Cherry Valley Stillwater</p> <p>Ebey Island Crescent Lake Cherry Valley Stillwater</p> <p>Crescent Lake Cherry Valley</p>	<p>1) Acres of forage provided for huntable wildlife 2) Acres of aquatic enhancement for huntable wildlife</p> <p>1) Number of deer and elk takes annually 2) Observed increase or decrease in resident waterfowl populated noted (Y/N)</p> <p>1) Number of properties investigated or acquired</p> <p>1) At Crescent Lake, 11.5 acres year round bird dog training in designated areas (through 2018 – long term plan to be informed by WAAC process ). 2) At Cherry Valley, 65 acres year round bird dog training in designated areas except during hunting season. During hunting season, 25-30 acres (through 2018 - long term plan to be informed by WAAC process). 3) Designated bird dog training area maps and rules posted (Y/N)</p> <p>1) Number of WAAC meetings to discuss bird dog training opportunities including training days and events. 2) Documented process and outcomes at 2-year plan update, with revisions as appropriate.</p>	<p>WLA Manager Wildlife Program Habitat Program</p> <p>WLA Manager Game</p> <p>WLA Manager Real Estate Region 4 Land Acquisition Team</p> <p>WLA Manager Enforcement</p> <p>WLA Manager Regional Wildlife Program Manager</p>	<ul style="list-style-type: none"> <li>- Use agricultural practices to enhance forage for waterfowl and pheasants.</li> <li>- Identify projects and funding such as Duck Stamp for waterfowl hunting enhancements.</li> <li>- Continue managing vegetation to improve habitat.</li> <li>- Post signs to limit activities that disturb or discourage wildlife from inhabiting the units.</li> <li>- Control presence of dogs to encourage wildlife reintroduction.</li> <li>- Manipulate habitat and control actions on the ground to increase resident waterfowl population.</li> <li>- Work with regional partners on acquisition strategies and priorities in the Snoqualmie drainage.</li> <li>- Incorporate future climate change (flooding and hydrology) and connectivity assessment information to the extent possible.</li> <li>- Manage bird dog training areas with stakeholders for compatible use.</li> <li>- Keep maps and information about rules regarding dogs and bird dog training areas current.</li> <li>- Post information about local alternative areas to walk pets.</li> <li>- Provide background information for WAAC, Region 4 District Team, and stakeholders about WDFW conservation and management objectives.</li> <li>- Provide background information about dogs on the wildlife area.</li> <li>- Provide information to the public and other stakeholders.</li> <li>- Assure the dog training community that WDFW is committed to working out a viable solution.</li> </ul>

Goal	Draft Objective	Unit	Performance Measure	WDFW Lead	Tasks (Actions)
3.	H. Continue to monitor the presence of dogs, including bird dog training activities and events.	Ebey Island Spencer Island Crescent Lake Cherry Valley Stillwater	1) Record of observations on effect of dogs on WLA and compliance with rules (Y/N) 2) Recommendations (if necessary) of actions to take to protect wildlife or reduce user conflict (Y/N)	WLA Manager Regional Wildlife Program Manager Enforcement	<ul style="list-style-type: none"> <li>- Continue to inform users of rules regarding dogs.</li> <li>- Communicate clearly about agency conservation and recreation goals.</li> <li>- Work with Enforcement and Snohomish County to develop tailored solution for enforcing leash laws.</li> </ul>
	I. Improve public access to Ebey Island by 2020.	Ebey Island	1) Middle lobe parking area at Ebey Island developed (Y/N) 2) New entrance to Ebey Unit with increased parking, boat launch to Deadwater Slough, and pedestrian bridge access to middle the unit completed (Y/N)	WLA Manager	<ul style="list-style-type: none"> <li>- Develop newly acquired property for access.</li> <li>- Coordinate with local jurisdictions.</li> <li>- Assess any future climate impacts to proposed infrastructure.</li> </ul>
	J. Improve access at the Corson Unit.	Corson	(1) Access alternatives developed at the Corson (Y/N)	WLA Manager Real Estate Regional Wildlife Program Manager	<ul style="list-style-type: none"> <li>- Work with adjacent landowners and county.</li> </ul>
	K. Identify opportunities to improve ADA access by identifying and prioritizing needs and funding by 2023.	Crescent Lake Cherry Valley	1) Assessment of ADA access completed (Y/N) 2) Number of projects completed	WLA Manager	<ul style="list-style-type: none"> <li>- Identify access needs and potential at each unit.</li> <li>- Identify and apply for funding sources.</li> <li>- Implement improvements with secured funding.</li> </ul>
	L. Improve safety and access to the units by upgrading road and trail systems by 2023.	All	1) Miles of road graveled 2) Ebey Island road and trail system constructed (Y/N) 3) Service road entrance at Crescent Lake constructed (Y/N)	WLA Manager	<ul style="list-style-type: none"> <li>- Add gravel to existing roads at Cherry Valley, Stillwater and Crescent Lake.</li> <li>- Build gravel road and trail system at Ebey Island, including pedestrian access over bridges and sloughs.</li> <li>- Develop service road entrance off Crescent Lake Rd.</li> <li>- Install new gates at all parking entrances.</li> <li>- Identify and apply for funding.</li> <li>- Assess any future climate impacts to proposed infrastructure.</li> </ul>
	M. Identify priority areas and research security improvement options for entrances by 2023.	All	1) Priority areas identified (Y/N) 2) Options for increased security identified (Y/N) 3) Number of options implemented	WLA Manager Enforcement	<ul style="list-style-type: none"> <li>- Prioritize areas for increased security.</li> <li>- Develop cost-effective options.</li> <li>- Implement cost-effective options as funding allows.</li> </ul>
	N. Continue to work with volunteers and Snohomish County Parks to maintain trails.	Spencer Island	1) Number of miles of trail maintained	WLA Manager	<ul style="list-style-type: none"> <li>- Work with volunteers and Snohomish County.</li> </ul>



Goal	Draft Objective	Unit	Performance Measure	WDFW Lead	Tasks (Actions)
3.	O. Continue to develop amenities to improve user experience such as viewing platforms, benches, and waterfowl hunting enhancements by 2020.	Spencer Island	1) Number of user amenities installed 2) Number of volunteers assisting installation	WLA Manager	<ul style="list-style-type: none"> <li>- Identify funding and volunteers to provide and install amenities.</li> <li>- Install amenities as funding allows.</li> </ul>
4.	A. Continue to work with the Region 4 Volunteer Coordinator to communicate stewardship opportunities.	ALL	1) Number of volunteer and projects 2) Number of volunteers who enroll in CERVIS 3) Number of educational opportunities supported by regional staff	WLA Manager Region 4 Volunteer Coordinator	<ul style="list-style-type: none"> <li>- Meet with key user groups such as Master Hunters, salmon recovery groups, scouts, bird watchers.</li> <li>- Do presentations on wildlife are management.</li> <li>- Assess ability of the wildlife area to offer/host wildlife educational sessions.</li> </ul>
<b>Statewide Goal: Engage stakeholders in consistent, timely, and transparent communication regarding wildlife area management activities.</b>					
5.	A. Coordinate and maintain a Wildlife Area Advisory Committee.  B. Coordinate communications with community groups about current wildlife area management activities.	All	1) Number of meetings per year. 2) List of topics of concern addressed 3) Number of actions resulting from topics discussed	WLA Manager	<ul style="list-style-type: none"> <li>- Review advisory committee periodically to ensure balance of users and interests.</li> <li>- Keep web page updated with membership roster, agendas and meeting summaries.</li> <li>- Review Wildlife Area Management Plan updates every two years.</li> <li>- Maintain stakeholder list and WLA email and webpage.</li> </ul>
<b>Statewide Goal: Maintain productive and positive working relationships with local community neighbors, lessee partners and permittees.</b>					
6.	A. Maintain continuous agricultural leases.  B. Develop and implement Farm Plans with King and Snohomish conservation districts.  C. Continue networking with regional conservation partners and stakeholders.	Ebey Island Crescent Lake Cherry Valley Stillwater  Ebey Island Crescent Lake Cherry Valley Stillwater  All	1) Number of leases managed 2) Acres planted, harvested, and retained for wildlife 3) Percent increase in acres in agriculture  1) Number of Farm Plans completed 2) Annual report of farm plan activities implemented.	WLA Manager  WLA Manager	<ul style="list-style-type: none"> <li>- Confer with lessees on reasonable conditions for entering into leases.</li> <li>- Work with farmers, Sustainable Land Strategy, Snohomish and King Counties on regional agricultural issues.</li> <li>- Meet with conservation districts to discuss process, plan, and design.</li> <li>- Track results of plan implementation (acres, new acres, organic acres, etc.).</li> <li>- Support agricultural production district objectives.</li> <li>- Coordinate with key management and conservation partners at regional scale: weed control, agriculture, flood control, etc.</li> <li>- Attend meetings; maintain connections; articulate WDFW goals.</li> </ul>

Goal	Draft Objective	Unit	Performance Measure	WDFW Lead	Tasks (Actions)
<b>Statewide Goal: Hire, train, equip, and license wildlife area staff, to meet the operation and management needs of wildlife areas.</b>					
7.	Hire, train, and equip the wildlife area.  A. Hire permanent full-time assistant manager or field technician by 2019.  B. Stay current on staff pesticide certification.  C. Stay current on wildlife and habitat diseases and conditions and respond appropriately.	All  All  All	1) Full time assistant manager hired (Y/N)  1) Certification maintained (Y/N)  1) Number of response events	Region Program Manager Lands Division Manager WLA Manager  WLA Manager  WLA Manager	- Recruit, hire and train staff, as budget allows.  - Take necessary courses and tests for recertification.  - Track and document disease occurrence and responses.
<b>Statewide Goal: Maintain safe, highly functional and cost-effective administration and operational facilities and equipment.</b>					
8.	Improve safety for visitors and compliance with rules.  A. Reduce illegal activities on the wildlife area by encouraging participation in established programs.  B. Work with partners to identify and implement ways to improve visitor safety in areas with occurrence of unsafe and illegal activities.	All  Ebey Island Crescent Lake	1) Participation of "Eyes in the Woods" program (or other) (Y/N)  1) Number of active partners identified 2) Number of visitor safety improvements identified and implemented	Enforcement WLA Manager Region 4 Volunteer Coordinator  WLA Manager Enforcement	- Develop communication to encourage users to participate in reporting. - Continue working with "Eyes in the Woods" program. - Encourage all users to participate.  - Work with partners (Sheriff, State Patrol, etc.) to continue shared responsibility for public safety and reduce illegal activities. - Maintain trash-free parking areas with unobstructed views from roadways.
9.	Assess needs, seek funds, and implement facility improvements.  A. Replace the barn on NE Cherry Valley Road with a shop that includes office space, bathroom, meeting room and potable water by 2020.  B. Replace aging pheasant net pen at Cherry Valley and build new net pen facility at Ebey Island by 2020.  C. Work to increase budget amounts to fund much-needed improvements and infrastructure needs.	Cherry Valley  Cherry Valley Ebey Island  All Units	1) Funds secured for new office/shop building (Y/N)  1) Net pen replaced at Cherry Valley (Y/N) 2) Net pen built at Ebey Island (Y/N)  1) Annual and biennial budgets increased (Y/N)	WLA Manager Regional Program Manager  WLA Manager  WLA Manager Regional Program Manager Lands Division Manager	- Get replacement cost funding into Capital Improvements budget and priority list. - Assess any future climate impacts to proposed infrastructure.  - Tear down old pens and rebuild new pen facility. - Address security issues.  - Submit updated "needs" list to management annually. - WLA needs list shared with upper management and legislators. - Investigate other opportunities outside of state budget.

# Part III: Species and Habitat Management

# Physical Characteristics

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This part of the plan contains physical, ecological, and biological (species) information about the wildlife area. There is information about the physical characteristics: geology, soils, hydrology, watersheds, and climate. The ecological values sections presents information about the ecological systems of concern on the wildlife area, along with a discussion about connecting networks (connectivity) that are important for wildlife. The species section includes general and management information about game species, non-hunted (diversity) species, and fish.

## Geology and Soils

The Snoqualmie Wildlife Area sits in the Puget Lowland province. Geology and topography are primarily products of repeated continental glaciations; soils were scraped and compacted to clay and rock debris of all sizes was deposited. The broad, low-gradient valley was created by sub-glacial fluvial erosion (Booth 1994).

General elevations range from sea level to 400+ feet. The river elevation and associated meander belt is higher in elevation than the surrounding valley floor in portions of the Snoqualmie River valley (Collins and Sheikh 2002). This is presumed to result from building sediment deposited by the Snoqualmie River channel throughout the post-glacial period. Flood events deposited sediments near the channel but were not so large to distribute sediments throughout the floodplain. Consequently, extensive areas along the valley margins are lower than the zone along the riverbank by typically six to nine feet.

Glacial soil deposits range from very porous gravels and sands to hard till in which substantial clay and silt are mixed with coarser particles. Several soil series occur on the Snoqualmie Wildlife Area. Mukilteo Muck is the single most abundant soil on the wildlife area, and the Puget Series is the next most common.

The most abundant soils are poorly drained silt loams and silty clay loams derived from alluvium. Muck soils, derived from organic matter, are also common. All of these soils are rated relatively high for non-irrigated crop production and red alder growth, but not for conifer production. The reverse is true for the sandy loams and gravelly loams that are present but less common. On the majority of the wildlife area, permeability is slow to moderate with a high seasonal water table at or near the surface. Available water holding capacity is high and runoff is slow to ponded, with only a slight erosion hazard.

## Hydrology and Watersheds

The Snoqualmie Wildlife Area lies within the Snohomish Watershed, which includes the Skykomish and Snoqualmie rivers, which join and flow generally westward as the Snohomish River, reaching the Puget Sound at the city of Everett. Encompassing 1,856 square miles, the Snohomish River Watershed is the second largest basin that drains to Puget Sound, after the Skagit River. The Skykomish and Snoqualmie rivers originate in steep, confined valleys in the Cascade Mountains, while the Snohomish River flows through a broad alluvial valley and a multi-threaded delta on its way to Possession Sound. The Snohomish estuary itself encompasses almost 30 square miles and includes the Spencer Island and Ebey Island units.

Hydrology in the Snohomish, Snoqualmie, and Skykomish rivers and associated tributaries is changing. Historical flow patterns and volumes are shifting as a result of changing land uses and climate change. Human activities, such as installing impervious surfaces, removing trees, and withdrawing water, contribute to altered watershed processes, degraded water quality, loss of wetlands and riparian forests, and degraded shoreline conditions (Snohomish County 2015).

Once the ground is saturated, winter storms cause these rivers to rise six feet or more. While the average monthly river flows peak in December and January, the largest floods can occur from late October up through May. Spring flooding from snowmelt and rain can happen as late as July, and have a lower peak and last longer. The tides also have significant influence on the Snohomish River for about 15 miles upstream to the city of Snohomish. High river flows combined with high tides can magnify the tidal effects in the estuary and lower portions of the watershed.

While bank armoring and a lack of large woody debris have maintained the Snohomish River channel in a relatively confined pattern, several oxbow lakes indicate the river meandered more at one time. A system of nearly continuous dikes along the banks and two major



**Crescent Lake**  
Photo by Alan Bauer

pump stations at French Creek and Marshland protect adjacent farmland from flood damage and disconnect the river from its floodplain. Prior to dike construction, the floodplain contained many seasonal wetlands and oxbows, with emergent, shrub-scrub, and forest vegetation. Many sections of the dikes in the lower Snohomish estuary have been or are being breached, and much of this land has become seasonally flooded agricultural land, in most cases inundated by invasive and noxious vegetation. The Snohomish Estuary has benefited from a number of investigations to support coastal management planning and restoration activities. Because of geomorphic form, sediment delivery, and the composition of emergent wetland communities, estuaries in the Pacific Northwest, like the Snohomish, offer opportunities where restoring wetlands would be of relatively high resilience to sea level rise and act as effective sinks for carbon sequestration (Crooks 2014).

## **Climate**

The Snoqualmie Wildlife Area's climate is classified as marine west coast. It is an area of moderate temperatures, having mild, wet winters and cool, dry summers, with heavy rainfall during the winter. Rain falls mainly between October and March. Snowfall is light. Precipitation is influenced by the Pacific Ocean and proximity to the Cascade Mountains. Average annual precipitation varies from about 35 inches at Spencer Island, Ebey Island and Corson units to 40 inches at Crescent Lake, Cherry Valley and Stillwater units. Snowfall also varies in relation to the Cascade Range, averaging about 1.5 inches annually, usually melting within 36 hours. Fog in the valley is common year-round, and usually burns off before noon. Temperatures range from an average low of 44 degrees F, and average high of about 60 degrees F in Everett, WA, with highs exceeding 85 degrees F, and lows seldom below freezing.

# Ecological Values

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## Ecological Systems and Ecological Integrity

Ecosystems contribute their greatest ecological value when they are at their peak of health and provide the greatest level of support to native species (Cordell et al. 2005). State wildlife area lands vary in their ability to provide that support. Some lands have been highly used or degraded, while others were acquired in more pristine states for habitat preservation.

WDFW's strategic objectives for management of agency lands include protecting and restoring the ecological integrity of critical habitats consistent with DNR's Natural Heritage Program's Ecological Integrity Monitoring (EIM). The statewide goal is to restore and protect the integrity of priority ecological systems and sites. Ecological Integrity Assessments (EIA) and EIM are used to direct and measure achievements towards that goal. Ecological integrity is the ability of a system to support and maintain a community of organisms that has species composition, diversity, and functional organization comparable to those of natural habitats. EIM is a tool to evaluate ecological integrity, and changes to integrity over time within priority systems and sites on wildlife areas. Similar to species classifications grouped according to level of threat and potential inability to support sustained populations, habitats are grouped by type, including those that are priorities for preservation and conservation. The complete classification system, including descriptions of all ecological systems, can be found online at <https://www.dnr.wa.gov/NHP-EIA> and summarized in the framework.

The planning process for the Snoqualmie Wildlife Area identified three National Ecological Systems of Concern to manage for ecological integrity: North Pacific Hardwood-Conifer Swamp; Temperate Pacific Freshwater Emergent Marsh; and North Pacific Lowland Riparian Forest and Shrubland, as described in Table 6.

In addition, specific actions associated with ecological integrity are included in Table 5: Goals, Objectives, and Performance Measures. Actions include determining a baseline for ecological integrity for each of the systems of concern, and then developing a monitoring plan to evaluate progress to restore them over time. Much of the habitat and species enhancement activities discussed previously will contribute to maintaining or improving the ecological integrity.

## Habitat Connectivity

Washington State supports a remarkable variety of fish and wildlife species, and their survival depends in part on their ability to move safely throughout the environment to find food, reproduce and migrate. The degree to which land protection and condition supports these necessary movements is called "habitat connectivity." Many of the state's wildlife populations are at risk of losing this connectivity because of increasing development pressure and barriers on the landscape. The threat of climate change will make the need for habitat connectivity even more critical, as many species will need to adapt to a changing landscape.

The Washington Habitat Connectivity Working Group (<http://waconnected.org/>) developed a statewide connectivity analysis, as well as some regional analyses (WHCWG 2010). The statewide analysis scale is very general, but identifies major wildlife habitat concentration areas and identifies those important for connectivity. Most of the species modeled are not present on Snoqualmie Wildlife Area, so it is not possible to make full use of this tool on the wildlife area.

**Connectivity in the Snoqualmie Wildlife Area:** The individual wildlife area units are small and not connected to each other. The statewide analysis did not show a high rating for habitat connectivity as described above.

However, with the Snohomish Basin being the second largest drainage to Puget Sound and a key area for salmon, steelhead, and bull trout recovery in the region, these lands can play a role in the overall needs of fish and wildlife in the valley. Being in an area with fragmentation of the land and a growing population, this valley is important to salmonids, migratory birds, and wildlife in general. It is one of the few crucial lowland areas that abut the wildland interface in King and Snohomish counties. Continued development in the area, especially hard features in the landscape, will likely lead to the loss of biodiversity in the valley. The Snoqualmie Wildlife Area units preserve open space and retention of habitat and wildlife values, in the face of continued population increases. Riparian and other restoration projects enhance the ability of these places to serve as refuges and stem the loss of biodiversity expected with urban development

**Wildlife Corridor:** Ebey Island, Crescent Lake, Cherry Valley and Stillwater units are all river bottom-floodplain habitats good for wildlife and that support agriculture because of the rich soil. These important wildlife habitat areas are protected from habitat loss and alteration. Large and small mammals from elk to bats rely on these areas during some phase of their life cycle. Many forms of aquatic and terrestrial life utilize these areas as well

**Endangered Species Act listed salmonids:** The Snoqualmie, Skykomish, and Snohomish River systems are the primary salmon, steelhead, and bull trout migration corridors for the watershed, as well as providing spawning, rearing, transitioning, and refuge habitat for adults and

juveniles. The Corson Unit provides important spawning and rearing habitat for coho in the Pilchuck River that drains to the Snohomish River. The Snohomish River Basin Salmon Conservation Plan provides more details (<https://snohomishcountywa.gov/1061/Publications>).

**Pacific Flyway:** The Pacific Flyway is a major north-south flyway for migratory birds in America, extending from Alaska to Patagonia. Every year, migratory birds travel some or all of this distance both in spring and in fall, following food sources, heading to breeding grounds, or travelling to overwintering sites. The Snoqualmie Wildlife area provides needed food and rest stops for migratory birds. Trumpeter swans, pintail, gadwall, northern

**Table 6: Ecological Systems of Concern on the Snoqualmie Wildlife Area**

The wildlife area is 2,797 acres.

Ecological System of Concern	Units	Approximate Acreage and percent of ESC	Description
North Pacific Hardwood-Conifer Swamp	Corson Ebey Island Crescent Lake Cherry Valley Stillwater	855 acres 31%	Flat to gently sloping lowlands, occurring sporadically in glacial depressions. Groundwater or streams are major hydrological drivers. Surface water may be slowly moving through the site or as stagnant pools. Dominated by conifer and hardwood species capable of growing on saturated or flooded soils.
Temperate Pacific Freshwater Emergent Marsh	Ebey Island Cherry Valley Crescent Lake Stillwater	625 22%	Wetlands dominated by emergent (graminoid) species where standing water is semi-permanently present. Found along the borders of ponds, lakes or reservoirs that have more open basins and a permanent water source. Water is at or above the surface for most of the growing season. Vegetation is dominated by emergent herbaceous species, mostly graminoids but also some forbs.
North Pacific Lowland Riparian Forest and Shrubland	Corson Spencer Island Ebey Island Crescent Lake Cherry Valley Stillwater	1300 acres 47%	Linear system that occurs on low elevation alluvial floodplains that are confined by valleys and inlets or lower terraces of rivers and streams. Riverine flooding and the succession that occurs after large flood events are the major drivers of this system. This system does not develop under stagnant hydrological regimes. Primarily dominated by broadleaf species such as big leaf maple, black cottonwood, and red alder, though in the absence of major disturbances conifers tend to increase.

shovelers, American wigeon, and mergansers are common on the wildlife area in winter. Canada geese and mallards are present year-round.

In addition to waterfowl, raptors and songbirds migrate and live throughout much of the Snoqualmie Wildlife Area and Snohomish River basin. Red-tailed hawks, owls including great horned, screech, barn and pygmy are present year-round as are bald eagles. Marsh birds such as Virginia rail,

American coot, bittern and foraging great blue heron are resident, and many neotropical songbirds depend on the area for breeding and migration.

Washington is one of the 11 western states that participate in the Pacific Flyway Council, which develops plans for cooperative management of migratory waterfowl in the Pacific Flyway.



**Swans at Ebey Island**  
Photo by WDFW Staff



# Species Management

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## Species Overview and Management

Consistent with WDFW's mission, the agency manages wildlife species for two primary purposes: 1) to conserve and protect sustainable fish and wildlife populations, habitats and ecosystems and, 2) to provide recreational and commercial opportunities.

The Wildlife Area Management Plan Framework describes how species are classified - including species listed at the state or federal level as threatened or endangered, as well other designations such Species of Greatest Conservation Need (SGCN). The SGCN list is designed to be comprehensive, and includes the species already listed as threatened, endangered or sensitive, as well as additional species thought to need conservation attention. The framework also incorporates goals from WDFW's Game Management Plan, which includes:

- protecting, sustaining, and managing hunted wildlife;
- providing stable, regulated recreational hunting to all citizens;
- protecting and enhancing wildlife habitat; and,
- minimizing adverse impacts to neighboring landowners, other wildlife, and the environment.

The wildlife area plan integrates these plans and priorities, and in the Goals and Objectives section, defines specific actions to achieve them.

State and federally listed threatened and endangered species, as well as Priority Habitat and Species, known as PHS, and SGCN species found on Snoqualmie Wildlife Area are listed in Table 7.

There are three federally threatened species present on the wildlife area and all are salmonid fishes: Chinook salmon, winter Puget Sound steelhead, and bull trout. Many restoration projects have been completed on the wildlife area to improve fish habitat and remove barriers to fish passage. Future actions are planned to improve habitat for

fish, waterfowl, and other wildlife by restoring ecological function to estuaries and freshwater wetlands, improve rearing habitat for salmonids, and generally improving conditions for wildlife.

All six units combined provide habitat for at least 19 Species of Greatest Conservation Need (Table 7). The species labeled SGCN are of conservation concern for various reasons. Many may need additional research attention. While there are management plans in place for some of them, this wildlife area management plan does not specifically address any individual species. At least 20 species are priority species, (Table 7) defined by WDFW to be priorities for conservation and management.

For more information, please see WDFW's Priority Habitats and Species website at <https://wdfw.wa.gov/conservation/phs/> and the State Wildlife Action Plan at <http://wdfw.wa.gov/conservation/cwcs/>.

## Potential Species

A few species have the potential to occur on the wildlife area if habitat restoration takes place. For instance, most of the wildlife area is in the historic range of the Oregon spotted frog (*Rana pretiosa*), but there is generally low likelihood of occurrence. A survey on Ebey Island did not discover any, and habitats elsewhere are marginal. A survey for Oregon spotted frog could confirm that the species is presently absent and to assess habitat restoration potential. Western pearlshell mussel (*Margaritifera falcate*) was documented in Cherry Valley (Wild Fish Conservancy 2012).

A couple of other species could be present in the right conditions, such as the purple martin (*Progne subis*), which has occurred in the vicinity of some of the Snohomish County units, Hatch's click beetle (*Eanus hatchii*), Beller's ground beetle (*Agonum belleri*), Puget Oregonian (*Cryptomastix devia*) and Salish sucker (*Catostomus* sp; a unique form of longnose sucker).

**Table 7. State and Federal Conservation Status, WDFW Priority Habitat and Species (PHS), and Species of Greatest Conservation Need (SGCN) Criteria and Priority Areas that May Occur on the Wildlife Area Units.**

Common Name	Scientific Name	Federal and State Status, SGCN	PHS Criteria	PHS Priority Designation	Wildlife Area Unit
<b>MAMMALS</b>					
Hoary bat	<i>Lasiurus cinereas</i>	SGCN			All
Silver haired bat	<i>Lasionycteris noctivagans</i>	SGCN			All
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	SC, SGCN, PHS	1, 2	Any occurrence	All
Keen's myotis	<i>Myotis keenii</i>	SC, SGCN, PHS	1, 2	Any occurrence	All
Roosting concentrations big-brown bat and myotis species	<i>Eptesicus fuscus</i> , <i>Myotis bats</i> ( <i>Myotis spp.</i> )	PHS	2	Breeding areas, communal roost, regular concentrations	All
Western spotted skunk	<i>Spilogale gracilis</i>	SGCN			All
Elk	<i>Cervus elaphus</i>	PHS	3	Calving areas, migration corridors, regular concentrations in winter	Crescent Lake, Cherry Valley, Stillwater
Columbian black-tailed deer	<i>Odocoileus hemionus</i>	PHS	3	Regular concentrations	All
<b>BIRDS</b>					
Waterfowl concentrations		PHS	2, 3	Significant breeding areas, regular winter concentrations	All
Cavity nesting ducks		PHS	3	Breeding areas	Ebey Island, Stillwater
Cinnamon teal	<i>Anas cyanoptera septentrionalum</i>	SGCN			All
Trumpeter swan	<i>Cygnus buccinator</i>	PHS	2, 3	Regular concentrations	Crescent Lake, Cherry Valley, Stillwater
Tundra swan	<i>Cygnus columbianus</i>	PHS	2, 3	Regular concentrations	Crescent Lake, Cherry Valley, Stillwater Ebey Island
Common loon	<i>Gavia immer</i>	SS			Cherry Valley, Stillwater
Bald eagle	<i>Haliaeetus leucocephalus</i>	SGCN		Breeding areas, communal roost, regular concentrations	All
Peregrine falcon	<i>Falco peregrinus</i>	SGCN		Breeding areas, regular occurrences	All
Band-tailed pigeon	<i>Columbia fasciata</i>	SGCN, PHS	3	Regular concentrations	All
Short-eared owl	<i>Asio flammeus</i>	SGCN			All

**Table 7. State and Federal Conservation Status, WDFW Priority Habitat and Species (PHS), and Species of Greatest Conservation Need (SGCN) Criteria and Priority Areas that May Occur on the Wildlife Area Units.**

Common Name	Scientific Name	Federal and State Status, SGCN	PHS Criteria	PHS Priority Designation	Wildlife Area Unit
Western screech owl	<i>Otus kennicottii macfarlanei</i>	SGCN			All
Pileated woodpecker	<i>Dryocopus pileatus</i>	SC, PHS	1	Breeding areas	Corson, Ebey Island, Crescent Lake, Stillwater
Great blue heron	<i>Ardea herodias</i>	PHS		Breeding areas	All
<b>AMPHIBIANS</b>					
Western toad	<i>Anaxyrus boreas</i>	SGCN,PHS	1	Any occurrence	All
<b>INVERTEBRATES</b>					
Western bumble-bee	<i>Bombus occidentalis</i>	SGCN			All
<b>FISH</b>					
Puget Sound Chinook salmon ESU	<i>Oncorhynchus tshawytscha</i>	FT, SC,SGCN, PHS	1, 2, 3	Any occurrence	Spencer Island, Ebey Island, Crescent Lake, Cherry Valley, and Stillwater
Puget Sound steelhead DPS	<i>Oncorhynchus mykiss</i>	FT, SGCN, PHS	1, 3	Any occurrence	Spencer Island, Ebey Island, Crescent Lake, Cherry Valley, and Stillwater
Puget Sound/Strait of Georgia Coho salmon DPS	<i>Oncorhynchus kisutch</i>	SGCN, PHS	2, 3	Any occurrence	Spencer Island, Ebey Island, Crescent Lake, Cherry Valley, and Stillwater
Pacific lamprey	<i>Entosphenus tridentatus</i>	FSC, SGCN, PHS	3	Any occurrence	Migrate through Ebey Island, Crescent Lake, Stillwater, Cherry Valley
Bull trout (Coastal Recovery Unit in SGCN list)	<i>Salvelinus confluentus</i>	FT, SC,SGCN, PHS	1, 2, 3	Any occurrence	Migrate through Ebey Island, Crescent Lake, Stillwater, Cherry Valley
River lamprey	<i>Lampetra ayresii</i>	SC, FSC, SGCN, PHS	1	Any occurrence	Spencer Island, Ebey Island, Crescent Lake, Cherry Valley, and Stillwater*
Olympic mudminnow	<i>Novumbra hubbsi</i>	SS, SGCN, PHS	1	Any occurrence	Cherry Valley

**Abbreviations:**

State endangered (SE), State threatened (ST), State Candidate for listing (SC), State Sensitive (SS), Species of Greatest Conservation Need (SGCN), Priority Habitats and Species (PHS), Evolutionarily Significant Unit (ESU), Distinct Population Segment (DPS)

Federal endangered (FE), Federal threatened (FT), Federal candidate (FC), Federal species of concern (FSC)

**PHS Criteria:** 1: State listed candidate species; 2: Vulnerable aggregations; 3: Species of recreational, commercial, or tribal importance.

\* Distribution based on Wydoski & Whitney 2003

## Invasive Species

One of the actions in this plan is to conduct informal surveys for presence of aquatic noxious and invasive species of flora and fauna as very little is known about the presence of them on the wildlife area. The bullfrog (*Rana catesbeiana*) is one species known to occupy the wildlife area. Invasive catfish, crappie, and largemouth bass were all found at Cherry Valley during some restoration work in 2012 (Wild Fish Conservancy 2012).

## Game Species Overview and Management

Some game species such as black-tailed deer, elk, and small game including rabbit, occur on the Snoqualmie Wildlife Area. Game species on the wildlife units are managed in accordance with the species-specific management plans. For more information, view the WDFW 2015-2021 Game Management Plan online at <https://wdfw.wa.gov/publications/01676/>.

Small game, waterfowl, pheasant, and other upland birds are common on the wildlife area. Raised pheasant are planted on Ebey Island, Crescent Lake, Cherry Valley,

and Stillwater units. Elk and Columbian black-tailed deer hunting also occurs on the Crescent Lake and Stillwater units. Management activities in this plan include maintaining agricultural production for the benefit of game species, improving hunting opportunities, including releasing pheasants.

## Waterfowl

Washington provides wintering habitat for thousands of ducks, geese, and swans annually, as well as habitat for breeding ducks and geese each spring and summer. Spencer Island, Crescent Lake, Cherry Valley, and Stillwater units were purchased for waterfowl habitat and hunting opportunities and this directs some of the management activities in the plan to improve habitat and access for hunting. The Pacific Flyway waterfowl population contains almost six million ducks, geese, and swans, and many of these birds pass through the state during fall and spring. Resident waterfowl populations have been improving on the wildlife area due to agriculture, which provides food and cover, the reduced presence of dogs, and habitat improvement.



**Western Pearlshell Mussel**  
Photo by Wild Fish Conservancy



**Mallard Ducks on Spencer Island**  
Photo by Alan Bauer

Waterfowl management is linked to numerous inter-agency management programs. Effective management depends on cooperative state programs through the Pacific Flyway Council and North American Waterfowl Management Plan. For Snoqualmie Wildlife Area, the management focus is to improve wintering habitat for waterfowl and improve access for hunting. Duck Stamp Program funding can be sought to restore waterfowl habitat and enhance the wildlife area.

Waterfowl seasons are based on frameworks established by U.S. Fish and Wildlife Service (USFWS), in conjunction with the Pacific Flyway Council. Washington ranks second among the 11 Pacific Flyway states and usually ranks in the top ten states in the U.S. based on waterfowl harvested and number of hunters.

### **Upland Game Birds**

Upland bird populations on the wildlife area have been declining since the early 1980s. Common upland game birds on the Snoqualmie Wildlife Area include pheasant (*phasianus colchicus*), and California quail (*callipepla californica*). Ruffed grouse also occur in low numbers on some units. Grouse and quail fall population densities and related harvest are often dependent on spring weather conditions and available cover and food.

### **Pheasant Production and Release**

The Western Washington Pheasant Release Program releases from 38,000 – 44,000 birds annually at 25 wildlife area sites to provide upland bird hunting opportunities. About 6,165 pheasants were released on the Snoqualmie Wildlife Area in 2016, up from 4,275 in 2006. The birds are released on portions of Cherry Valley, Crescent Lake, Stillwater, and Ebey Island units each fall.

From 2006-2007, about 10% of the birds went to the Snoqualmie Wildlife Area. From 2008-2013, it was over 11%, and from 2014-2016, 15-16% of the pheasants were released at Snoqualmie.

Pheasant hunting is done exclusively on the WDFW wildlife areas, while waterfowl hunting also occurs on private and federal lands. Groups such as Pheasants Forever and Washington Waterfowl Association offer opportunities for youth to partner with an experienced hunter to help assure safe and successful experience during the September youth hunts. In the fall of 2016, the wildlife area manager conducted a “windshield” survey targeting pheasant hunters. Forty surveys were collected, and the main points were to 1) plant more birds; 2) reduce overcrowding; and 3) improve safety.

See Appendix F: Pheasant Release Data and Hunter Survey for more year-by-year data on pheasant production and the survey results.

## Big Game

Big game hunting rules are described in Washington's annual Big Game Hunting Seasons and Regulations pamphlet (<https://wdfw.wa.gov/hunting/regulations/>). The state is divided into Game Management Units (GMUs) for management purposes. Deer and elk are hunted at Crescent Lake (GMU 407) and Stillwater (GMU 460).

### Columbian black-tailed deer (*Odocoileus hemionus columbianus*)

Black-tailed deer are resident on the wildlife area. They occur from the crest of the Cascades west to the ocean, preferring brushy, logged lands and coniferous forests. Deer thrive at the interface of openings and cover patches, which allow them to feed in productive areas and provides cover.

Black-tailed deer populations are stable across their range. Deer are hunted in Washington from September through December. State regulations provide for archery, muzzleloader, and modern rifle seasons on the wildlife area.

According to the Game Management Plan, the goal of deer population management is to maintain relatively stable populations within the limitations of available habitat, landowner tolerance, accounting for extreme weather events. Recreation management for deer is directly tied to population management. The recreation goal for deer is to maintain or increase hunting opportunity. An additional goal is to be responsive to landowner conflicts which sometimes involves recreational hunting seasons but other times requires separate mitigation tools as spelled out in the wildlife conflict section.

### Elk (*Cervus elaphus*)

Elk are one of the largest species of the deer family and are one of the largest land mammals in North America. Elk that are found on the Snoqualmie Wildlife Area are associated with the North Bend herd. Elk have been observed at Crescent Lake, Cherry Valley, and Stillwater units recently.



**Black-tailed Deer**  
Photo by Antony Sirgedas



**Wigeon**  
Photo by Jim Cummins

## **Diversity (Non-Game) Species Overview and Management**

The Snoqualmie Wildlife Area supports a variety of diversity species (species that are not hunted), such as bats, skunk, eagles, falcons, and owls. Diversity species include those SGCN, (Species of Greatest Conservation Need), species classified as PHS (Priority Habitats and Species), and federal and state listed species. The Snoqualmie Wildlife Area contains many diversity species, but there have been no surveys for invertebrates and amphibians. An action in this plan is explore ways to conduct a survey of invertebrates and amphibian Species of Greatest Conservation Need (Goal 2.C).

Management activities such as allowing the natural regrowth of the forest and reducing invasive species will improve habitat for a variety of species. Diversity species with special status are shown on Table 7 above and include species of bats, owls, woodpeckers, as well as western toad, western bumblebee and Olympic mudminnow, a fish found only in Washington. Management and restoration activities will contribute to the return of some species of birds, amphibians, and insects.

## **Birds**

The wildlife area hosts many common species of birds, some that breed locally, and some that use the units primarily as wintering and migratory sites. Herons, robins, sparrows, swallows, wrens and blackbirds are common. The density of waterfowl attracts raptors such as bald eagles. Red-tailed hawks, northern harriers, short-eared and western screech owls, and an occasional peregrine falcon or merlin are found on the wildlife area. Local bird watchers have reported increased sightings of rare or unusual birds.

## **Reptiles and Amphibians**

Amphibians abound in these wet habitats. Species likely to occur include the red-legged frog, Pacific tree frog, northwestern salamander, western long-toed salamander, and rough-skinned newt. Western toad is the only SGCN amphibian that presumably uses some of the upland areas of the wildlife area. The wildlife area is also in the historical range of the Federally Threatened Oregon spotted frog. This species also historically occupied habitat close to the Crescent Lake Unit at the confluence of the Snoqualmie and Skykomish rivers (2012 WDFW).

Garter snakes are the common reptile in the area.

## Invertebrates

There are no data on invertebrates on the wildlife area. Species that the State Wildlife Action Plan (WDFW 2015) identifies as having the potential for occurring on the wildlife area are the Western pearlshell mussel (*Margaritifera falcata*) -- which was located on the wildlife area in 2012, and the Puget Oregonian snail (*Cryptomastix devia*).

## Fish Species and Management Overview

The Snohomish River basin is one of the primary producers of anadromous salmonids in the Puget Sound region, and has been the focus of salmon recovery efforts for many years. Nine salmonid species are found in the basin (Snohomish 2005). Salmonids found in the Snoqualmie Wildlife Area's intertidal and fresh water environments include Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), chum salmon (*Oncorhynchus keta*), pink salmon (*Oncorhynchus gorbuscha*), and steelhead (*Oncorhynchus mykiss*). Winter-run and summer-run steelhead are present in the Snoqualmie watershed. Bull trout (*Salvelinus confluentus*) are present throughout the Snohomish River basin but are not known to spawn in the Snoqualmie watershed (See Table 8).

In 2007, Puget Sound steelhead were listed under the ESA as threatened and a Puget Sound-wide recovery plan is being developed. There are five independent steelhead populations in Snohomish Basin. Adults and juveniles of all five migrate through the lower Snohomish River and estuary and are thus associated with the Spencer Island and Ebey Island units. Two populations utilize river and creek areas within the Crescent Lake, Cherry Valley and Stillwater units, and two other populations utilize Crescent Lake Unit's area of Riley Slough. Habitat restoration projects conducted to benefit Chinook salmon recovery on the units will also benefit steelhead.

Bull trout in the coterminous United States (not Alaska) are also ESA-listed as threatened (1999) and a recovery plan was completed in 2015. The Snohomish Basin has one population or 'core area', Snohomish and Skykomish rivers bull trout, with spawning grounds in the upper North Fork and South Fork Skykomish rivers. Bull trout are salmonids in the char family and although some individuals are anadromous, marine migrations are short compared

those of salmon and steelhead. Bull trout rear, forage and migrate through the Skykomish, Snoqualmie, Pilchuck and Snohomish rivers and aquatic habitat restoration projects in all wildlife area units are expected to benefit them.

Other native fish important to the wildlife area include coastal cutthroat trout, westslope cutthroat trout, rainbow trout, mountain whitefish, longnose dace, sculpin species, western brook lamprey, Pacific lamprey, white sturgeon, and peamouth chub. Bull trout (*Salvelinus confluentus*) are more common on the Skykomish River, but use the Snohomish and Snoqualmie rivers for foraging and migrating. Introduced species such as eastern brook trout and westslope cutthroat trout are present also.

Five of the Snoqualmie Units (Spencer Island, Ebey Island, Crescent Lake, Cherry Valley, and Stillwater) are located adjacent to salmon bearing rivers, and all units have salmon-bearing waterways. The Snoqualmie, Skykomish, and Snohomish rivers are the primary salmon migration corridors for the Snohomish basin, and provide spawning, rearing, and refuge habitat for all life stages of adults and juveniles. The Snohomish Basin Salmon Recovery Plan provides more details <https://snohomishcountywa.gov/1127/Snohomish-Watershed-Salmon-Recovery-Plan>.

Spencer and Ebey Islands, located in the lower Snohomish River, provide estuary-rearing habitat for juvenile salmon as they emerge from the gravel and travel downriver to the Puget Sound. Chinook salmon rear in the estuary. While estuaries are important nursery habitats for all juvenile salmon, they are essential for the survival of Chinook salmon. Cherry Valley Unit provides seasonal off-channel rearing habitat for juvenile salmon behind a floodgate and dike agricultural system. The Stillwater Unit, located in the Snoqualmie River provides spawning and rearing habitat for coho salmon and Chinook salmon in Harris Creek, as well as mainstem river refuge habitat and spawning gravels. Crescent Lake, an ancient oxbow in the confluence of the Snoqualmie and Skykomish rivers, flows to Riley Slough. Historically, Riley Slough and Crescent Lake provided summer low flow rearing habitat for salmonids. After dikes were built along the Skykomish River, flows were cut off from reaching Riley Slough, resulting in a loss of salmonid rearing habitat. Catherine Creek on the Corson Unit is very productive for coho salmon spawning and rearing.



The Snoqualmie and Skykomish rivers are spawning grounds for two distinct, naturally occurring Chinook salmon populations. However, the loss of rearing habitat quantity, by diking the river and removal of vegetation along the mainstem rivers, is thought to be a key reason for their decline to less than ten percent of historic levels. Habitat loss in the estuary was due to diking and agriculture use in the early 1900s. In the last 20 years, hundreds of acres of historic estuary that was diked has been restored to benefit fish and wildlife. Subsequently, the dikes breached naturally, like at Spencer Island, or the land was purchased to restore. In the Snohomish Estuary, 835 acres have been breached as of 2016. Breaching the dikes on nearby Smith Island, Qwuloolt, Blue Heron, Union Slough and Spencer Island has revitalized and restored connections in the estuary. See Maps 8 and 9 for Chinook

salmon and coho salmon distribution in the Snohomish Basin.

In-stream habitats for juvenile rearing are limited for all life history stages of salmon and steelhead within the Snoqualmie and Snohomish watersheds. The 2005 Snohomish River Basin Salmon Conservation Plan calls for process-based river restoration including 10.4 miles of river edge habitat restoration and 168 acres of off channel habitat restoration over 10 years (Snohomish, 2005). Levee/revetment removal and levee setback projects that reconnect floodplain habitat are key to meeting this salmon recovery goal. Low summer stream flows restrict the fish to deep-water portions of the stream, which may lack the necessary food and habitat resources necessary for the fish to survive.

**Table 8: Snohomish Basin Watershed Salmon, Steelhead, and Bull Trout Stock Profiles**

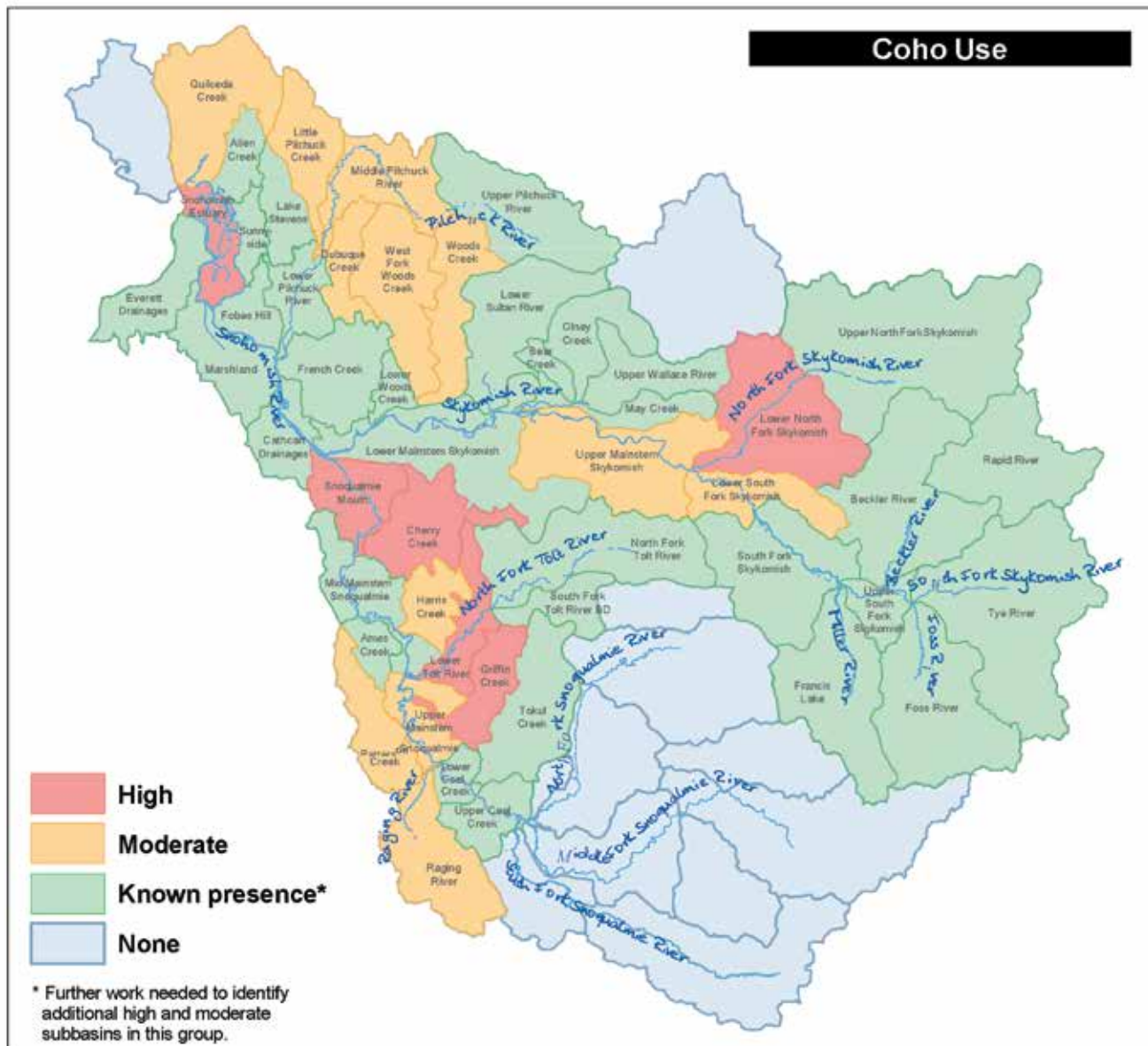
Source: <https://fortress.wa.gov/dfw/score/score/>

Population	Major Subbasin(s)	Endangered Species Act (ESA) Status	Population Origin & Current Management
Snoqualmie Chinook salmon	Snoqualmie & tributaries	Threatened	Native stock with wild production
Skykomish Chinook salmon	Snohomish & Pilchuck rivers, Skykomish River & tributaries	Threatened	Native stock with hatchery & wild production
Snohomish/Skykomish rivers winter-run steelhead	Snohomish, Skykomish & its tributaries	Threatened	Native stock with wild production
Pilchuck River winter-run steelhead	Pilchuck River	Threatened	Native stock with wild production
Snoqualmie River winter-run steelhead	Snoqualmie & tributaries	Threatened	Native stock with wild production
Tolt River summer-run steelhead	Tolt River & tributaries	Threatened	Native stock with wild production
North Fork Skykomish River summer-run steelhead	North Fork Skykomish	Threatened	Largely a native stock with wild production. There may be low levels of interaction with nonnative hatchery-origin summer steelhead.
Snohomish and Skykomish rivers bull trout	North and South Fork Skykomish rivers	Threatened	Native stock with wild production
Snoqualmie coho salmon	Snoqualmie River	Not Warranted	Mixed-origin stock with wild production.
Skykomish coho salmon	Skykomish & N.F. Skykomish rivers	Not Warranted	Mixed-origin stock with wild production.
Snoqualmie fall-run chum salmon	Snoqualmie	Not Warranted	Native stock with wild production
Skykomish fall-run chum salmon	Skykomish River	Not Warranted	Native stock with wild production



### Map 9: Coho Salmon Distribution in the Snohomish River Basin

Source: Snohomish Basin Salmon Recovery Forum. June 2005



# Habitat Management Overview

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## Overview

This section provides a description of the habitat management activities that occur on the Snoqualmie Wildlife Area, including forest, fire, and noxious vegetation management, as well as habitat restoration activities.

## Forest Management

The Snoqualmie Wildlife Area contains roughly 1,160 acres of forest. Most wildlife area forests consist of North Pacific Lowland Riparian Forest and Shrubland. There are also a few small patches of North Pacific Mesic-Wet Douglas-fir-Western Hemlock Forest.

Typical trees include Douglas fir, western hemlock, and western red cedar, with some shore pine and Sitka spruce. Deciduous trees include big leaf maple, red alder, black cottonwood, and willow.

Historically, most of the forests on the wildlife area consisted primarily of old-growth trees. Because of natural river flooding and movement of the rivers channels, the composition of species would change as younger trees grew up in the floodplain. Upland wildfires and human activity altered all forests to some degree. Nearly all forests on the wildlife area were logged prior to WDFW ownership, except the wet forest on the Ebey Island Unit. Most riparian forests were cleared to make way for agriculture. As a result, riparian forests at the wildlife area lack the conifer component that historically would have been present. While the remaining forest on the Ebey Island Unit was too wet for logging, flood control dikes changed the hydrology, altered salinity, and prevented sediment deposition such that it is now a lower elevation than the river.

Despite past and ongoing human influences, natural disturbance processes like flooding, channel migration, windstorms and fire regimes that maintained the historic forest conditions still exist, and the forests are recovering. Previously logged areas are naturally progressing toward reforestation. The forested riparian areas of Cherry Valley, Stillwater, and Corson units are recovering quickly due to restoration and tree planting. Consistent with the Management Strategy for the Washington State Department of Fish and Wildlife's Forests, WDFW's forest management activities on the Snoqualmie Wildlife

Area are primarily around allowing natural succession to occur.

## Fire History and Management

Three historical documented fires occurred on Spencer Island Unit of the Snoqualmie Wildlife Area. The dikes on Spencer Island are made of coarse wood chips, which is a highly flammable material that tends to smolder and burn slowly underground once ignited. Transporting firefighting equipment to the area by land or water is a problem due to dike conditions so firefighting must be done by hand tools when conditions allow. Therefore, fires may smolder for some time before eventually burning out. The first fire that escaped to the dike was initially set to burn the remains of a mobile home on the Island. Another dike fire (of unknown causes) took two days to put out. A third dike fire at the north end of the Island (potentially from a discarded cigarette) burned some nearby alder trees and took nearly a month to extinguish.

Three recent fires occurred. Fireworks were the cause of two fires on Ebey Island in July 2015 and July 2016, and a third fire started in August 2016. Fire, especially human-caused, is a real threat to the area because of the dikes, fallow fields and reed canary grass. County fire districts typically respond to fires in the wildlife area. See Appendix C for the Fire Response Summary.

## Weed Management

The Weed Management Plan (Appendix B) identifies species, timing and management practices to control invasive weeds. The goals of weed management on the Snoqualmie Wildlife Area are to reduce the infestation of noxious and invasive weeds, improve the habitat for fish and wildlife and meet legal obligations of RCW 17.10 Noxious Weeds-Control Boards. Species of concern include Himalayan blackberry, reed canary grass, invasive knotweed, purple loosestrife, tansy ragwort, butterfly bush, Canada thistle, common teasel, and English ivy. Several of these species are required for annual control by RCW 17.10.

Hundreds of acres of formerly fallow fields are being converted to active farmland, which helps control the spread of invasive weeds. Strategies employed to reverse

these conditions include use of mechanical and manual biomass removal and herbicide treatments. Some re-vegetation has occurred with past salmon restoration efforts. Planned wetland enhancements will reduce or remove certain species and provide for re-vegetation opportunities; however, locations have not been identified at this time. In recent years, collaborative weed control efforts have included assistance from the King County Noxious Weed Program, habitat restoration partners, and agricultural leaseholders.

## Habitat Restoration

For the past 10 years, restoration efforts on the Snoqualmie Wildlife Area have focused on improving water flows to improve fish passage. Starting in 2006, WDFW completed 36 fish passage projects, with 22 of the projects being done in 2012 in the Cherry Valley Unit, eight at Stillwater, two at Crescent Lake, two on Spencer, and two at Corson. Funds were provided from a variety of sources, including the State Legislature, private business, Department of Ecology, Community Salmon Fund, King and Snohomish counties, and many local stakeholders and partners. Projects were completed on all of the Snoqualmie Wildlife Area during that timeframe.

## Future Restoration

Agency staff will continue to work with partners to complete habitat restoration projects on the Snoqualmie Wildlife Area. The agency works with various restoration partners to identify potential projects on WDFW-owned land that supports the mission and advances the strategic plan. When this occurs, interested stakeholders will work through the WDFW Restoration Pathway process, which is a series of steps that ensures projects on WDFW lands are consistent with the agency's mission, that planning considers stakeholder values, that impacts to other agency values are considered and addressed, and that projects are properly designed, implemented fully, and adaptively managed. This effort responds to the watershed wide

goals focusing on improved drainage and control of water resources, preserving the agricultural heritage of the area and responding to continued salmon recovery efforts. Benefits gained in this area will also provide benefits to wildlife and recreational opportunities.

Currently, four proposed projects on the Snoqualmie Wildlife Area have been approved by regional staff and are currently in the funding stage of the process.

- 1. Spencer Island Estuary Restoration Project:** A partnership with the U.S. Army Corps of Engineers is exploring a project that involves increasing the site's connection with the tides while maintaining trail access. Anticipated benefits of the project are increased access to the site for fish through an additional opening in the dike, improved tidal channel habitat due to restoration of hydraulic and sediment processes, and improved water quality.
- 2. Ebey Island Master Land Management Plan:** This project would involve WDFW organizing a process that includes input from local residents and stakeholder to develop a short and long-term plan for Ebey Island that improves habitat and recreation on the Unit.
- 3. Stillwater Wetland and Agricultural Enhancement:** This project is a partnership with Ducks Unlimited that involves restoring wetland habitat and fallow farm fields to improve habitat for wildlife and waterfowl, recreational opportunities, and agricultural areas.
- 4. Cherry Valley Wetland Enhancement and Floodplain Restoration Project:** This is a long-term, phased project that develops wetland enhancement and floodplain restoration projects that improve flood, farm, and fish objectives of the larger Snoqualmie River Valley by working with partners such as Drainage District 7, King County Flood Control District, Ducks Unlimited, and other stakeholders. This includes reforestation of riparian areas and the potential levee set back project proposed by Drainage District #7.

# Climate Change Approach

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## Purpose

The primary purpose of this section is to evaluate how projected changes in climate will affect the resources of the Snoqualmie Wildlife Area and to highlight opportunities that may help to mitigate or prepare for those impacts. This section also summarizes work by the wildlife area planning team to review the management objectives (see Goals and Objectives section), and make changes as appropriate to ensure that objectives are responsive to future anticipated changes (see Table 9).

This work is consistent with the directives of a 2017 WDFW policy titled “Addressing the Risks of Climate Change”, which states that WDFW will “manage its operations and assets so as to better understand, mitigate, and adapt to impacts of climate change”.

## Projected Climate Change Impacts\*

Increasing greenhouse gases will lead to warmer temperatures throughout this century for the Pacific Northwest. Climate modeling studies indicate that the region will become warmer under all future scenarios, with a rise of between 3 and 11 degrees Fahrenheit projected in the Puget Sound region by the end of the 21st century. The region will also experience more intense rainfall events under most future scenarios, an average increase of 22% in frequency by the 2080s. Other key impacts are highlighted below.

### Sea level rise

In the Puget Sound region, sea level rose 8.4 inches from 1900 to 2008. An additional rise of between 14 and 56 inches is expected by the end of this century, although local rates of rise could be higher or lower depending on other variables such as vertical land motion, ocean currents, and wind patterns. Sea level rise will increase the frequency and severity of coastal flood events, and affect the geographical range, abundance, and diversity of marine species and habitat. Locations more likely to experience habitat loss include low-lying areas and areas where inland migration of coastal habitats is hindered by bluffs or human development. Particularly vulnerable habitats include coastal wetlands, tide flats, and beaches.

### Increased Flood Risk

The Snoqualmie Basin has been widely studied, and it is expected that flood risk will be particularly sensitive to climate change. A study conducted by the Climate Impacts Group (Mauger et al 2014) focused on the interactions between changes in peak streamflows, sea level rise, and storm surge in the lower Snohomish Basin. The study projects changes in the area inundated in 10-year and 100-year floods, and notes a large increase in inundation particularly in the 10-year flood. Under current flood management practices, the current 10-year flood in the Snohomish Basin is projected to occur at 3-year intervals.

### Changes in Streamflow

The snow in the Cascade Mountains, a primary water storage source, is sensitive to warming winter temperatures. All climate-modeling scenarios indicate significant declines in snowpack by the 2080s, leading to changes in seasonal stream flows, higher peak flows in spring and winter, and lower flows in the summer months. Summer stream temperatures are expected to rise on average 4 degrees Fahrenheit by the 2080s. These changes in stream hydrology will further stress salmonids and cold-water ecosystems.

The wildlife area and the surrounding lands provide important habitat for wildlife and fish as well as fertile farmland. Planning for the Snoqualmie Wildlife Area needs to take into account how this area will be impacted by climate change in order to effectively manage for flood risk, fish habitat needs, and agricultural production. See Table 10 for specific actions.

\*Unless otherwise indicated, information about climate impacts in this section was drawn from the following document: “State of Knowledge: Climate Change in Puget Sound, Climate Impacts Group, November, 2015.”

## Impacts to Wildlife Area Resources

### Species and Ecological Systems of Concern with High Vulnerability to Climate Change

The Table 9 shows the Species of Greatest Conservation Need (SGCN) on the Snoqualmie Wildlife Area that are expected to be more vulnerable climate change. Note that only SGCN were considered in this assessment and it does

not include climate sensitivities for other species that may be associated with the wildlife area.

Vulnerability to climate change was determined by an evaluation of inherent sensitivity to climatic variables, as well as an assessment of the likelihood of change in key climate variables important for each species. Confidence in each ranking was also assessed, based on the extent and quality of reference material and information.

## Integrating Climate Science in the Wildlife Area Plan

It is the intent of WDFW to assess climate change impacts in the context of other conservation threats or stressors, and include appropriate response actions in resource planning initiatives and other studies. This includes state wildlife area management plans. The Table 10 identifies recommendations for objectives in this plan and what the climate consideration is.

**Table 9: Climate Watch Species on Snoqualmie Wildlife Area – SGCN with Moderate-High Overall Vulnerability and High Confidence (WDFW 2015)**

SGCN	Overall Vulnerability Rank	Description of Climate Sensitivity	Important Climate Variables
Bats	Moderate-High	<ul style="list-style-type: none"> <li>- Specialist's diet with sensitivity linked to timing and abundance of prey.</li> <li>- Sensitive to changes in microclimate during winter hibernation.</li> </ul>	<ul style="list-style-type: none"> <li>- Increased temperature</li> </ul>
Puget Sound Chinook salmon ESU	Moderate-High	<ul style="list-style-type: none"> <li>- Sensitive to warmer water, low flows, and high flows.</li> <li>- Low flow linked to mass mortality</li> <li>- High flows can reduce egg survival during incubation.</li> <li>- Both low and high flows can affect adult migration.</li> </ul>	<ul style="list-style-type: none"> <li>- Increased freshwater temperatures</li> <li>- Lower summer flows</li> <li>- Increases winter/spring flood events</li> </ul>
Puget Sound steelhead DPS	Moderate-High	<ul style="list-style-type: none"> <li>- Sensitive to warmer water, low flows, and high flows.</li> <li>- High flows can reduce egg survival</li> <li>- Low flows can reduce juvenile survival.</li> </ul>	<ul style="list-style-type: none"> <li>- Increased water temperatures</li> <li>- Altered spring runoff timing and amount/magnitude</li> </ul>
Bull trout – Coastal Recovery Unit	Moderate-High	<ul style="list-style-type: none"> <li>- Sensitivity driven by water temperature. Have lower thermal tolerance than other salmonids.</li> </ul>	<ul style="list-style-type: none"> <li>- Increased water temperatures</li> <li>- Altered runoff timing</li> <li>- Increased winter/spring flood events</li> <li>- Lower summer flows</li> </ul>

**Table 10: Climate Considerations for Goals and Objectives**

Goal in Snoqualmie Wildlife Area Plan	Objective	Climate Consideration
<b>Statewide Goal: Restore and protect the integrity of priority ecological systems and sites.</b>		
Maintain or improve the ecological integrity of priority systems and sites.	Establish an ecological integrity (EI) baseline and associated goals for the ecological systems of concern and priority systems and establish EI goals by 2023.	The ecological integrity baseline should include parameters that can provide a baseline for assessing climate change impacts.
	Identify and implement wetlands enhancements by 2024.	Consider future climate data in design of restoration opportunities
	Develop a Master Land Management Plan for Ebey Island – by 2020.	The design of restoration plan should consider how rising sea levels, storm surge, and flood risk would affect the site.
	Identify restoration and monitoring needs by 2022 and address the feasibility of implementing restoration on these units.	Restoration priorities should be guided by how climate might affect future ecological conditions, and how climate might affect species and habitats of greatest conservation need. Areas that might add to resilience opportunities, for example cold-water refugia for salmonids or increased opportunities for habitat connectivity should be considered.
<b>Statewide Goal: Sustain individual species through habitat and population management.</b>		
Achieve species diversity at levels consistent with healthy ecosystems.	Improve infrastructure and fish passage to enhance Chinook salmon, steelhead, and bull trout by 2024.	If stream crossing infrastructure is planned as part of this project, changes in future bank-full width should be assessed by using the Climate Informed Culvert project data, available through the Habitat Program Science Division.
Achieve species diversity at levels consistent with healthy ecosystems.	Improve rearing habitat for juvenile Chinook salmon and other salmon species by 2028.	Projected changes in sea level rise, tidal mixing dynamics, and sediment flow should be assessed as part of restoration project design.
<b>Statewide Goal: Provide fishing, hunting and wildlife-related recreational opportunities.</b>		
Support and maintain appropriate recreation opportunities.	As they arise, pursue acquisition opportunities adjacent to WLA to provide more acreage for hunting and wildlife related recreation.	Incorporate future climate change (flooding and hydrology) and connectivity assessment information to the extent possible.
	Improve public access to Ebey Island by 2020.	Assess any future climate impacts to proposed infrastructure
	Improve safety and access to the units by upgrading road and trail systems by 2023.	Assess any future climate impacts to proposed infrastructure.
<b>Statewide Goal: Maintain safe, highly functional and cost-effective administration and operational facilities and equipment</b>		
Assess needs, seek funds, and implement facility improvements.	Replace the barn on Cherry Valley road with a shop – by 2020.	Assess any future climate impacts to proposed infrastructure.



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# Appendices

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- A. Species and Habitat Information
- B. Weed Management Plan
- C. Fire Response
- D. Pheasant Release Data and Hunter Survey

# Appendix A. Species and Habitat Information

**Table 11: Priority Habitats in Snohomish and King Counties**

Habitats	
Biodiversity Areas and Corridors	Herbaceous Balds
Old-Growth Mature Forest	Oregon White Oak Woodlands
Riparian	Freshwater Wetlands & Fresh Deepwater
Instream	Puget Sound Nearshore
Caves	Cliffs
Snags and Logs	Talus

Source: <https://wdfw.wa.gov/conservation/phs/list/>

**Table 12: Terrestrial SGCN Relationships with Ecological Systems of Concern**

Species of Greatest Conservation Need Relationship with Ecological Systems of Concern for the Snoqualmie Wildlife Area	North Pacific Hardwood-Conifer Swamp	Temperate Pacific Freshwater Emergent Marsh	North Pacific Lowland Riparian Forest and Shrubland
Western toad	x	x	x
Western screech owl	x		
Peregrine falcon		x	x
Townsend's big eared bat	x	x	x
Bald eagle	x	x	x
Hoary bat	x	x	x
Silver haired bat	x	x	x

**Table 13: List of Bird Species (72) Identified on or near the Stillwater Unit**

See page 14: Secretive Marsh Bird Surveys, Chris Anderson, WDFW District Biologist, 2016

American bittern	common yellowthroat	red-eyed vireo
American crow	downy woodpecker	red-tailed hawk
American goldfinch	eastern kingbird	red-winged blackbird
American kestrel	European starling	rufous hummingbird
American redstart	evening grosbeak	savannah sparrow
American robin	great blue heron	short-eared owl
bald eagle	hairy woodpecker	song sparrow
band-tailed pigeon	house finch	spotted sandpiper
bank swallow	Hutton's vireo	spotted towhee
barn swallow	killdeer	Swainson's thrush
belted kingfisher	Lazuli bunting	tree swallow
Bewick's wren	Macgillivray's warbler	turkey vulture
black swift	mallard	Vaux's swift
black-capped chickadee	marsh wren	violet green swallow
black-headed grosbeak	mourning dove	warbling vireo
brown creeper	Northern flicker	western tanager
brown-headed cowbird	northern rough-winged swallow	western wood-pewee
Bullock's oriole	orange-crowned warbler	willow flycatcher
bushy tit	osprey	Wilson's warbler
Canada goose	Pacific-slope flycatcher	wood duck
cedar waxwing	pileated woodpecker	yellow warbler
common merganser	purple finch	yellow-breasted chat
common nighthawk	purple martin	yellow-rumped warbler
common raven	red crossbills	

# Appendix B. Weed Management Plan

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## Snoqualmie Wildlife Area Weed Management Plan

### Weed Control Goals at the Snoqualmie Wildlife Area

The goal of weed control on WDFW lands at the Snoqualmie Wildlife Area that includes the Corson, Spencer Island, Ebey Island, Crescent Lake, Cherry Valley, and Stillwater units, is to reduce the impacted area of invasive and noxious weeds, improve the habitat for fish and wildlife, and meet legal obligations of Chapter 17.10 RCW Noxious Weeds-Control Boards.

To these ends, WDFW uses integrated pest (i.e., weeds) management (IPM), defined in RCW 17.15.010 as “a coordinated decision-making and action process that uses the most appropriate pest control methods and strategy in an environmentally and economically sound manner to meet agency programmatic pest management objectives.”

At the Snoqualmie WLA, the weed management objectives includes:

- a. **Inventory, track, and control** annually those noxious weed species required for control by RCW 17.10. Control all noxious weeds found in a timely manner to prevent spread by seed production or vegetative means. In 2018 for Cherry Valley, this is purple loosestrife and for Stillwater, tansy ragwort and purple loosestrife.
- b. **Wetlands, Riparian** - Monitor up to 600 acres annually for maintenance needs at all the units. The majority of management effort is the mowing of reed canary grass and blackberry in the floodplain to improve habitat for wildlife and waterfowl, while providing improved conditions for hunting and wildlife viewing. Maintain restoration plantings until they are establish to increase plant diversity and to help shade out reed canary grass. Treat other weeds found in wetland areas to control spread or reintroduction of wetland invasive vegetation such as purple loosestrife and knotweed. Comply with RCW 17.10 through annual surveys for noxious weeds, control of noxious weeds found to prevent spread by seed production or vegetatively.
- c. **Agricultural** - Continue to expand agricultural acres at Stillwater, Ebey Island and Cherry Valley units to historic levels (120-350 acres) in agricultural crops to reduce the levels of noxious and invasive weeds, and provide economic benefits to the agricultural community, while providing forage and cover for wildlife, waterfowl and upland birds. Benefits gained from reducing noxious and invasive weeds will also improve wildlife related recreational opportunities for the public, as well as being in compliance with RCW 17.10.
- d. **Public Access and Dikes** - The Snoqualmie WLA lies in a heavily urbanized area and receives a great deal of public use. Treat weed species such as blackberry, knotweed, purple loosestrife and teasel that impede recreational access at Ebey Island, Spencer Island and Stillwater units, and complies with RCW 17.10.

### Weed Species of Concern:

Weed species of concern on the Snoqualmie WLA include but are not limited to: Himalayan blackberry (*Rubus armeniacus*), reed canarygrass (*Phalaris arundinacea*), knotweed (*Polygonum spp.*), purple loosestrife (*Lythrum salicaria*), tansy ragwort (*Senecio jacobaea*), evergreen blackberry (*Rubus lanciniatus*), common tansy (*Tanacetum vulgare*), butterfly bush (*Buddleja davidii*), Canada thistle (*Cirsium vulgare*), common teasel (*Dipsacus fullonum*) and English ivy (*Hedera helix*).

Weeds that have been treated in recent years on the wildlife area and associated units are listed in Table 1. The table also describes the weed’s classification, an estimate of the acreage affected by the weed, how many acres were treated, the relative density of infestation, the general trend the weed infestation has been exhibiting, the control objective and/or strategy for the weed and finally, which wildlife units have the weed present.

**Table 14: Snoqualmie Wildlife Area Weed Table including the Weed Class and Unit Location on the Wildlife Area**

Weed Species	2016 County Noxious Weed Class	2015 Estimated Affected Acres	2015 Treated Acres	Qualitative Density	Annual Trend	Control Objective/ Strategy	County	Wildlife Area Unit Weed Distribution 2016
Blackberry	n/a	36	20.6	Medium-High	Stable- Decreasing	Mowing, agriculture herbicide	Snohomish	Crescent Lake, Ebey Island, Spencer Island
	n/a	100	34	Low-High	Stable- Decreasing	Mowing, agriculture herbicide	King	Stillwater
Knotweed	B	0.6	0.4	Low-High	Decreasing	Herbicide	Snohomish, King	Crescent Lake, Ebey Island, Stillwater
Purple loosestrife	B	0.08	0.02	Low	Decreasing- Increasing	Manual removal, herbicide	King	Cherry Valley, Stillwater
Reed canary grass	n/a	851	352	High	Stable- Decreasing	Mowing, agriculture shade	Snohomish	Crescent Lake, Ebey Island
	n/a	360	110	High	Stable- Decreasing	Mowing, agriculture, shade	King	Cherry Valley, Stillwater
Tansy ragwort	B-	0.02	0.02	Low	Decreasing	Mowing, agriculture, herbicide, manual	King	Stillwater

**B - Designate** – Legally mandated for control. In regions where Class B&C species are abundant, control is decided at the local level, with containment at the primary goal.

Detailed descriptions and natural history information for each of the above state-listed weed species listed above can be found at the Washington State Noxious Weed Control Board web site <http://www.nwcb.wa.gov/search.asp>. Information on other species contained in the list can be found at the University of California's Integrated Pest Management Online web site: [http://www.ipm.ucdavis.edu/PMG/weeds\\_intro.html](http://www.ipm.ucdavis.edu/PMG/weeds_intro.html).

Weed management information for individual weed species can be found at the PNW Weed Management Handbook link at: <http://pnwhandbooks.org/weed/control-problem-weeds>.

# Appendix C. Fire Response Summary

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## Fire Districts by Wildlife Area Unit

Unit Name	Fire District	Phone	City
Cherry Valley	King Co. #45	425-788-1625	Duvall
Corson	Snohomish Co. #8	425-334-3034	Everett
Crescent Lake	Snohomish Co. #3	360-794-7666	Monroe
Ebey Island	911 – various responders		
Spencer Island	911 – various responders		
Stillwater	King Co. #10	425-392-3433	Issaquah

## Department of Fish and Wildlife Contacts

Contact	Phone Number
Brian Boehm, Wildlife Area Manager	(425) 327-4869
Fenner Yarborough, Regional Wildlife Program Manager	(425) 775-1311 x110

Visit website for most up to date information ([https://wdfw.wa.gov/lands/wildlife\\_areas/snoqualmie/](https://wdfw.wa.gov/lands/wildlife_areas/snoqualmie/))



# Appendix D. Pheasant Release Data and Hunter Survey

**Table 15: West-side Pheasant Production and Snoqualmie Release Data**

Chris White, WDFW Pheasant Release Program, 2017

This table shows total WDFW Western Washington Pheasant production, and how many birds and percent were released in the Snoqualmie WLA.

Year	Total Pheasant Production	Release of Pheasant on Snoqualmie WLA	Percent of pheasant production at Snoqualmie
2006	44,093	4,275	10%
2007	39,445	4,875	10%
2008	40,165	4,328	11%
2009	39,525	4,470	11%
2010	43,277	4,830	11%
2011	41,330	4,545	11%
2012	41,070	4,682	11%
2013	37,605	4,305	11%
2014	38,430	5,700	15%
2015	40,020	6,285	16%
2016	38,265	6,165	16%

## Summary of Survey of Pheasant Hunters

Snoqualmie Wildlife Area Manger Boehm distributed surveys to users of the wildlife area between November and December 2016. Surveys were placed in plastic bags and put on windshields of vehicles at the wildlife area. Forty surveys were collected. This is a summary of comments related to the pheasant release program and pheasant hunting, from these 40 responses.

Overall, the main comments are to:

- 1) Plant more birds
- 2) Reduce overcrowding
- 3) Improve safety

## Planting of Birds

- Plant more birds [6]
  - even if licenses cost more[1]
  - make sure birds are available entire season [1]
- Reduce planting of birds in forested areas. Get birds out in open fields with planted cover. [1]
- Planting should be more professionally done. [1]

- Provide more info on when and where birds released [1]
  - Frustrating that other hunters seem to be alerted of drops – don't leak information or drop more frequently to prevent dangerous bottlenecks [1]
  - Don't plant birds close to out of bounds areas (safety concern) [2]

## Schedule

- Not fair that seniors have special [1]
- Allow more time for youth hunts [1]
- Plant at regular scheduled periods [1]
- Have even-odd hunting days (safer, prevent poaching) [1]
- Area is over crowded [4]
  - Over crowdedness makes it dangerous [2]
- Pheasant season hours are terrible – hunting is better at first and last light [1]
- Extend the pheasant release period through December [3]

## Rules Are Broken

- Pheasant hunters with no license [1]
- Hunting out of bounds [2]
- Poaching [2]

## Other

- Too many Blackberries leads to birds not being accessible and wasted even with good dog [1]
- Prefer punch card plan [1]

- Enjoys recreation associated with pheasant release hunting but would support work to benefit native wildlife [1]
- The pheasant release program on Ebey means a lot to the family. Hopes WDFW continues to support the pheasant release program on Ebey and further develop the site and continue to improve the properties.



**Hunter on the Snoqualmie Wildlife Area - Cherry Valley Unit**  
Photo by Alan Bauer

**For full Public Comment and WDFW Response,  
please check the WDFW website: [wdfw.wa.gov](http://wdfw.wa.gov)**



**Water lily - Stillwater Unit**  
Photo by Alan Bauer